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Master's Thesis  
Academic Year 2021

iShare: Intergenerational Knowledge Sharing of  
Accumulated Knowledge, Skills, and Interests



Keio University  
Graduate School of Media Design

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

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Abstract of Master's Thesis of Academic Year 2021

## iShare: Intergenerational Knowledge Sharing of Accumulated Knowledge, Skills, and Interests

Category: Design

### Summary

Aging is not just an inevitable process of gradually needing the care, but it is also one of the continuous demands for meaningful social interactions and reflection on the meaning of one's existence in relation to others. A sudden shift from employment to retirement will result in a severe feeling of purpose loss. In order to alleviate this kind of negative emotions, it is believed that providing access to possibilities for intergenerational interaction is an important avenue for social engagement.

Within this context, this study proposes the iShare concept, which emphasizes engagement, to keep retired seniors cognitively engaged and active through intergenerational knowledge sharing of accumulated knowledge, skills, and interests. This concept aims at helping people smoothly navigate the identity-changing transition into retirement, and promoting intergenerational reciprocity and minimizing social isolation.

In the end, iShare emphasizes the importance of concentrating on the why rather than the how when actively engaging the elderly through technology, although usability still remains a significant issue. To achieve, we are required to fully understand why technology comes to be more and more meaningful in the social and emotional lives of older persons, as is also emphasized by the active aging.

We all grow older, and our choices shape our lives in the future. iShare concept is one step in changing the public's perception of seniors from one of vulnerability to one of visibility.

Keywords:

active aging, intergenerational knowledge sharing, social engagement, design thinking

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# Chapter 1

## Introduction

### 1.1. Background

#### 1.1.1 Intergenerational Learning in the Perspective of Active Aging

In 2002, the World Trade Organization (WTO) coined the term Active Aging,<sup>1</sup> emphasizing that older people are important members of the family and society, and that they must generate an active coping attitude toward their later life from their subjective consciousness, and actively participate in social, cultural, spiritual, and other civic activities, not just as physical participants, but by using their own knowledge, talents, and empathetic abilities. That is, the elderly may choose to participate in a variety of multi-level social activities that are suited to their needs, interests, and abilities.

Intergenerational learning has a significant part in Active Aging. Intergenerational learning has three characteristics, according to studies: benefits, reciprocity, and empowerment [1]. Firstly, benefits refer to the immediate or long-term beneficial consequences that intergenerational learning may have. They might be complementary or shared and are accumulated by both older and younger people. Seniors get satisfaction from their contributions to the community as well as a better knowledge of the younger generation. On the other hand, it boosts self-esteem and confidence in younger generation, as well as a better understanding of older ones. For both generations, it creates the feelings of being loved, accepted, and respected, as well as enhanced knowledge and abilities, and the development of a meaningful, trustworthy intergenerational connection.

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<sup>1</sup> <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>

Secondly, the sharing of information and skills between generations is referred to as reciprocity in intergenerational learning. For young people, it is a transfer of traditions, values, and culture as well as life-long skills, while it represents a transfer of new ideas, insights into traditions, changing social systems, and new technologies for the elder. Thirdly, within intergenerational learning, empowerment is a deliberate continuing process centered in the local community combining mutual respect, critical reflection, compassion, and group engagement in which persons who do not have an equal share of resources acquire increased access to these resources [2].

With increasing global interdependence, it is becoming clear that intergenerational learning, defined as the transfer of information and skills across generations, may be a critical adaptation strategy for both young and old in the knowledge society of the twenty-first century [3]. From a social capital approach, where diverse components of social life build synergy and give cohesive trust and solidarity, intergenerational learning may provide a basis for lifelong learning [4].

Intergenerational learning promotes all age groups to share learning activities, so contributing to social inclusion, social cohesion, and solidarity [5], all of which are significant aspects of the Active Aging topic.

### **1.1.2 Impact of Intergenerational Support on Social Connectedness, Subjective Well-being and Health of the Elderly**

According to current trends, the elderly's spiritual demands are mostly expressed via a desire for a high-quality spiritual life, a desire to keep active contact with others, and an expectation of active engagement in social life. On the other hand, the elderly, based on social continuity theory, should continue to engage actively in social activities, retain touch with society, and communicate with people [6]. Hence, meeting their desire for connection has become a primary objective in supporting the aims of Healthy Aging and Active Aging.

Human beings are social creatures that need interaction with others in order to acquire social support, which may include emotional, material, or informational assistance from families, friends, or other community members. Psychologically, a

sense of social connectedness results in emotional benefits such as feelings of intimacy, sharing, and greater group cohesiveness [7]. It entails a feeling of belonging and relatedness between individuals, and its accumulation through time adds to a person's sense of belonging and social well-being [8].

As a result, providing chances for elders to engage with others and form connections with society will be critical to seniors achieving well-being and happiness in old life. Intergenerational communication and support, such as sharing information and experiences with the younger generation, has been shown to be an effective method of strengthening this connection [9].

Additionally, both receiving and providing intergenerational support has a positive effect on the mental health of older persons [10]. Seniors might feel appreciated for their intergenerational support, which can increase their subjective well-being. Elders who often communicate their thoughts with their kids have a higher subjective well-being. As a result, it is critical to significantly promote downward flow of intergenerational support and to facilitate intergenerational exchange in society in a variety of ways [11].

### 1.1.3 Intergenerational Knowledge Sharing

Starks views communication as the foundation for information exchange [12]. In daily life, knowledge is often transferred across generations. These intergenerational exchanges are crucial for the interchange and acquisition of knowledge. Knowledge gets updated as a result of the sharing process, and mutual understanding and trust are critical facilitators of intergenerational interaction [12]. In fostering intergenerational understanding and trust, Joshi, Dencker, Franz, and Martocchio emphasized the importance of empathy, mutual care, altruism, and beneficence, all of which are acknowledged and understood by all generations [13].

Intergenerational communication has been the informal channel within families for “systematic transfer of knowledge, skills, competencies, norms, and values across generations - and is as old as mankind” for millennia in both traditional and contemporary societies [3]. However, in modern, more complex cultures, intergenerational knowledge sharing is increasingly happening beyond the family. This is a novel model, one that is extrafamilial in nature. That is, intergenerational communication can occur both within the family and within society.

Thus, challenges emerge in establishing connections and opportunities for non-biologically related old and young people to develop meaningful relationships and foster the social growth, learning, and emotional stability that often characterize relationships between elder and younger family members [1].

Intergenerational knowledge sharing can be viewed as a reciprocal process in which both generations participate to the process of acquiring new views, exchanging experiences, and expanding networks [14]. Many research on intergenerational knowledge sharing have used a socio-cognitive approach, which indicates that both social and cognitive dimensions must be considered while analyzing this phenomena. For instance, efficient knowledge transmission requires three primary components: engagement, communicative exchanges, and learning [12].

The benefits of intergenerational knowledge exchange may be seen in the workplace as well. While older employees often have greater expertise in certain sectors, younger employees often possess knowledge and abilities that may be valuable to a firm. For younger responders, it provided a chance to get fresh ideas, share experiences, broaden their networks, and develop the ability to communicate with senior employees. For the elder generation, it was a means of expanding their grasp of the world and to educate themselves on topics that may help their company [14].

## 1.2. Problem Statement

The World Trade Organization's suggested concept of Active Aging highlights the need of social involvement and intergenerational assistance for elderly individuals, with the key word being Engagement. As they age, older persons often experience difficulties related with the removal of work-related social duties, as well as challenges associated with the progressive loss of social connections and decline in social involvement after retirement.

However, the elderly possess a wealth of knowledge, skills, values, and experience gained over the course of their professional careers and lives, which may be inspirational and shared across generations. Since current services designed for the elderly are more task-oriented that focus on helping older people with the chores of their lives, while ignoring their social and emotional needs, there are missed opportunities to utilize seniors' accumulated knowledge and interests, to

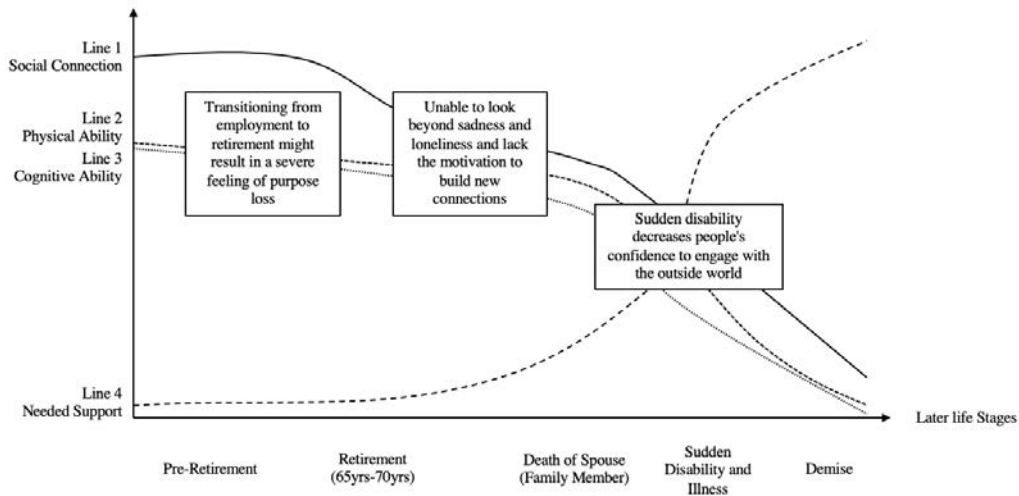


Figure 1.1 Challenges for elderly people in later life stages (created by author)

enable them to be more engaged, and to give them more emotional comfort and support, therefore avoiding social isolation.

Although intergenerational communication has been shown to benefit both the younger and older generations by improving mutual understanding, maintaining social connections, and enhancing knowledge and skills, due to the social stereotype that the elderly are vulnerable, their value is often overlooked. A comprehensive assessment of ageism studies reveals that positive representations and intergenerational interaction are the primary factors of ageism reduction [15]. Hence, how to facilitate direct, high-quality interaction between individuals of different ages may be considered as a successful strategy for changing people's inherent perception of the elderly as fragile, and facilitating mutual understanding.

Additionally, as older individuals generally see new technology as a 'know-how', which shaped their distrust [16], how to effectively motivate the elderly to engage in the digital world needs to be taken into consideration.

### 1.3. Research Goal

Based on the above mentioned discussion of intergenerational challenges, this research proposes the concept of an intergenerational knowledge sharing platform called iShare that assists the elderly in remaining mentally engaged through intergenerational sharing of accumulated knowledge and interests.

By presenting iShare concept, this research aims to clarify:

1. How does this concept help the retired people with identity transition and empower them to have a higher social engagement?
2. How does this concept help achieve enhanced knowledge and skills for both generations and deepen mutual understanding?
3. Does this concept help create meaningful and trusting intergenerational relationships between the two age groups?

Guided by service design theory, this concept is designed to offer a new experience of intergenerational learning and sharing in an age-friendly and informal setting, so as to facilitate more value exchange across generations.

We all age, and our actions determine our future. iShare is an attempt to shift the public's perspective of elders from vulnerable to visible.

### 1.4. Contribution

This research proposes the iShare concept that targets to facilitate intergenerational knowledge sharing by utilizing the accumulated knowledge, skills, and interests of the retired elderly.

Firstly, iShare has been demonstrated to be an effective way to keep the elderly mentally engaged and active after retirement, thereby achieving intergenerational reciprocity and reducing social isolation. That is, iShare acts as a way for the elderly to join a new social world by bringing them into touch with a community of individuals without geographical restrictions, which is especially important when senior people's mobility declines.



Secondly, by proposing the iShare concept, this research advances intergenerational knowledge sharing in real-world settings and offers the public a new perspective on the elderly. It is worth noting that iShare points out the necessity of developing a communicative virtual environment conducive to intergenerational dialogues during the intergenerational sharing process, as this is a critical component impacting motivations of both sides to get involved.

Thirdly, iShare demonstrates a method of thinking for focusing on the 'why' of engaging the elderly in rather than the 'how', and for understanding how technology becomes embedded in the social and emotional life of older adults, as Active Aging also emphasizes.

# Chapter 2

## Literature Review

### 2.1. Intergenerational Relationship and Communication

Intergenerational relationships are those between the old and the young, such as parents or grandparents and their children or grandchildren. Intergenerational exchange within the family is a key aspect of intergenerational relations, where parents provide their children financial or caring aid, while youngsters give their parents emotional comfort and respect. Unbalanced exchange leads to intergenerational contradictions [17].

Another explanation is that various generations have different group-centered ideas. They may have opposing viewpoints on the same issue. Generational disparities arise from shared formative experiences that contribute to generational identity formation, resulting in intergenerational borderlines [18].

In-group individuals of the same generation tend to face similar problems and challenges, and feel highly connected with similar concerns. That is, individuals typically feel good about their in-group members but think unfavorably about whom that from other groups [19]. However, through a sense of shared involvement with people who they admire or want to be like, people from different generation groups become highly engaged while discussing mutual interests [20].

In other words, people like to talk about things they enjoy, people they like, or individuals they want to be like. People obtained a sense of identity based on shared interests rather than age, indicating that intergenerational friendships may be intimate and meaningful [21].

To conclude, individuals of all ages may utilize shared engagement and communication to overcome intragenerational partiality and build healthy intergener-

ational connections.

## 2.2. Intergenerational Knowledge Sharing

First of all, this research focuses on discussion of intergenerational knowledge sharing. Communication is regarded as a way to achieve knowledge sharing, while both intergenerational learning and intergenerational support are outcomes of intergenerational knowledge sharing.

### 2.2.1 Knowledge Sharing

Knowledge is acquaintance with facts, information, or abilities. Education and experience sharing may help people gain knowledge.

Schwartz defined knowledge sharing as “*an exchange of knowledge between two individuals: one who communicates knowledge and one who assimilates it*” [22]. The knowledge sharing definitions emphasize human capital and social interactions. As a consequence of sharing, both the knowledge provider and the knowledge receiver share the same information or knowledge.

Also, De Vries defined knowledge sharing as: “*Knowledge sharing is the process where individuals mutually exchange their (tacit and explicit) knowledge and jointly create new knowledge...*” [23] This leads to knowledge generation, which is closely related to knowledge sharing. That is, a participant in a knowledge sharing process creates new or developed knowledge. Knowledge creation may be seen as a by-product or the final outcome of knowledge sharing, depending on the context of the knowledge sharing scenario.

Communication is critical in knowledge sharing. According to Starks [12], successful knowledge sharing includes involvement, communication, and learning. For knowledge sharing and creation to flourish across communities, a communication environment that encourages knowledge sharing is required. As Hooff and Ridder [24] indicate, the communication environment plays a critical role in knowledge sharing processes, motivation, and attitude.

Some researchers, on the other hand, believe that knowledge can never be completely shared. This is because knowledge occurs in context, which people interpret and appraise depending on prior experiences and background. According to

the research [25], the effectiveness of a knowledge sharing strategy is related to the participants' attitudes towards knowledge sharing. For example, people participate in a knowledge sharing activity only when they anticipate to earn something in return, like power, time, or other advantages [26].

## 2.2.2 Knowledge Sharing Across Generations

### Intergenerational Knowledge Sharing

In daily life, knowledge is shared between generations. Intergenerational contacts are vital for knowledge exchange and acquisition. Knowledge is reshaped throughout the process of sharing [12].

According to Cecilia Bjursell [27], intergenerational learning and knowledge sharing is a mutual process rather than a top-down approach where older generations educate younger generations. Young people benefit from this mutual process by sharing experiences and concerns, getting suggestions, building networks, and learning to communicate with older people, while it was for the elder generation a way to broaden their perspective of the world. Moreover, according to Brătianu and Orzea [28], the ability to share one's tacit knowledge does not always correlate with one's age, for it depends on one's past experience and information they know. Hence, intergenerational knowledge sharing is reciprocal process.

In addition, mutual understanding and trust are crucial intergenerational knowledge exchange facilitators. To be specific, intergenerational interaction is effective when all generations in the community acknowledge and understand the crucial components of empathy, mutual care, altruism, and beneficence [13].

### Social Exchange Theory

According to the social exchange theory, all human behaviors are dominated by exchange activities that provide benefits. Thus, all human social actions may be considered exchanges, and the social relationships formed through social exchanges can be considered exchange relationships. Among them, the medium of exchange is not restricted to actual goods and money, but also to spiritual acknowledgment and the conferral of honorary titles.

As a result, intergenerational assistance and sharing may be facilitated via this mode of interaction. The exchanges discussed above are not restricted to material and monetary exchanges, but also include exchanges of time, experience, service, and other types of exchange. This kind of exchange may enable individuals from various generations to share monetary or spiritual riches, to assist one another, and to eventually attain mutual benefit on a sustainable basis [29].

### **Strengths Perspective**

The strengths perspective, which emphasizes people's inherent qualities and superior resources, was pioneered by American researcher Dennis Saleebey [30]. The strengths perspective necessitates a shift of perspective and lens through which a person, family, or community is seen. The strengths perspective presupposes that each human has the energy and resources necessary to solve issues and the resilience necessary to endure amid adversity.

From a strength perspective, both older and younger generations have tremendous potential strengths and resources. As people age, they gather a wealth of experience, ideas, skills, and information, but younger people are more energetic, inventive, and open to new experiences than older people. By embracing this vision and promoting intergenerational solidarity between older and younger generations, we may anticipate both intergenerational transmission and renewal [31]. In the former case, the elder generation's experience, ideas, and talents may be passed on to the younger generation, forming the fundamental ingredients of social continuity. While in the second situation, the younger generation's fresh ideas, knowledge, and abilities may contribute to the renewal and progress of society, so promoting its sustainable growth.

### **Intergenerational Reciprocity**

Intergenerational reciprocity refers to mutual assistance, shared benefit, and mutual gain between generations. Essentially, the formation of human civilization is a process of reciprocity and succession between generations. It occurs at both the family and social (extrafamilial) levels and is manifested in the flow of wealth between older and younger generations, with intergenerational knowledge sharing viewed as a significant means of facilitating intergenerational reciprocity [32].

### **2.2.3 Life Review Through the Process of Intergenerational Sharing**

People make tales to grasp life. Traditionally, storytellers were elders who remembered the past and taught the young. For many years, this storytelling practice not only passed on knowledge but also elevated the elder's prestige within the community. This kind of life review is connected with aging [33] and supports much of the memory work done with older individuals in care settings [34] [35].

Thus it can be seen that life review is a natural and spontaneous component of connection with the younger generation and may be accomplished via intergenerational sharing. This process may be used to educate or instruct others, to pass on knowledge and experience to future generations, or to better comprehend one's own life or self. Furthermore, we can expect that the admiration for the seniors' experiences implies that young people see the relevance of the seniors' life phases in connection to their own.

### **2.2.4 Social Connectedness and Social Engagement**

Social connectedness is the feeling of being part of a social relationship or network [36]. A feeling of social connectedness makes individuals feel included and engaged. People who feel connected to society create social capital, a network that helps society function smoothly.

Seniors have a strong desire to interact with others, to be active, and to be deeply involved in social life, all of which is a need for social connectedness. Social connectedness also has a positive effect on one's mental and physical health [37] [38]. Individuals who are actively involved and connected are happier, healthier, and better equipped to deal with big changes and life transitions. Stress, loneliness, and social alienation, on the other hand, increase the risk of poor health and isolation, and may even result in death.

Social engagement is a pattern of behavior in which people recognize their own worth via social activities such as interpersonal contact, labor participation, leisure activities, and social interaction [39]. Social engagement aides in the maintenance of social identity and enables the elderly to recognize their own worth, which directly correlates with their well-being. Promoting social engagement among the

elderly by using their accumulated knowledge, experience, and skills is critical for strengthening seniors' social network connections and sense of social belonging, hence improving their mental health and overall quality of life.

Thus, aging should be seen as an opportunity rather than a threat, since older adults today are healthier, more educated, informed, experienced, and emotionally stable, and they have more time than older decades [40]. It indicates that we should encourage them to take an active role in their old age and intergenerational knowledge sharing is an excellent approach to do so. Finally, we wish to see the elderly change from passive to active participation in social, cultural, and spiritual activities.

Along with identifying and recognizing the elderly's needs, knowledge, and abilities, it is critical to develop a platform for action that takes full use of the elderly's collected knowledge and abilities. By establishing an appropriate action platform, the elderly can transition from passive recipients to active creators and sharers of knowledge, from remaining silent to express themselves, allowing them to use their accumulated knowledge, skills, and experience to engage in more active social interactions, thereby realizing their personal value [41].

## 2.3. Case Study

### 2.3.1 Case 1: Aware

The Aware<sup>1</sup> project aims to develop a social network that will be integrated with all the other modules that are respectively designed for the final target users in the final product. The three modules are:

- Environment adaptation module: Provide a strategy for adapting to any kind of setting (workplace, home, etc). This service will be delivered by an intelligent web search engine.
- Sharing knowledge module: Allow workers to keep an active role after retirement by sharing expertise and experience, connecting with other workers and

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<sup>1</sup> <http://www.aal-europe.eu/projects/aware/>

retired elderly people, and promoting remote short-time work, which might allow elderly people to be active after retirement.

- ICT approach module: Provide training sessions about the platform and its offerings. Concentrate on modified teaching methods for the elderly. The gained competence in utilizing such technologies after retirement contributes to social engagement and reduces less loneliness and isolation.

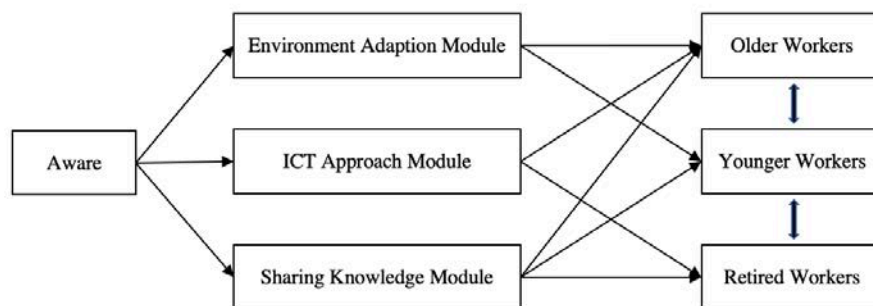


Figure 2.1 Aware platform with 3 modules integrated

As a result, these technology tools will allow both social ties between senior individuals and the construction of an intergenerational learning virtual environment involving older, younger, and retired employees. This strategy will help bridge the generation gap and integrate the ageing population by promoting lifelong learning and keeping generations engaged.

The following advantages and benefits are predicted from developing a platform with the mentioned features:

- Create online communities of retired employees to exchange experience, skills, and knowledge;
- Respond to current trends of the aging workforce by keeping older people cognitively and economically engaged;
- Provide support for companies during the retirement process.



The advantages of using this technology include improved knowledge transfer and sustaining relationships with retired workers.

### 2.3.2 Case 2: ProMe

The ProMe<sup>2</sup> platform is a concept that aims to foster intergenerational collaboration and professional mentoring provided by elderly people, to promote their reentry to the labor market after retirement. This concept attempts to motivate older people to volunteer for meaningful careers and actively share professional knowledge, beliefs, and skills with enthusiastic young learners in order to facilitate the transition from work to retirement, and employment after retirement.

ProMe's registered users are classified as follows:

- Providers, who take on responsibilities determined by their past professional experience, skills, and interests and serve as mentors or advisers;
- Recipients, who take on the role of participants in activities initiated by providers.

Not only does the ProMe platform provide informal communication through video, text chat, email, blogs, and forums, but it also enables users to take a variety of "mentoring roles" via an informal knowledge transfer process. Mentors and mentees may choose for long-term mentoring or for short-term assistance or information exchange on a specific topic.

In summary, the ProMe platform enables effective generational matching based on real-world requirements and expectations, as well as a range of communication and collaboration capabilities to facilitate intergenerational cooperation and learning.

ProMe has been demonstrated to be both practical and simple to use after evaluating it in a real client-based environment.

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2 <http://www.aal-europe.eu/?s=prome>

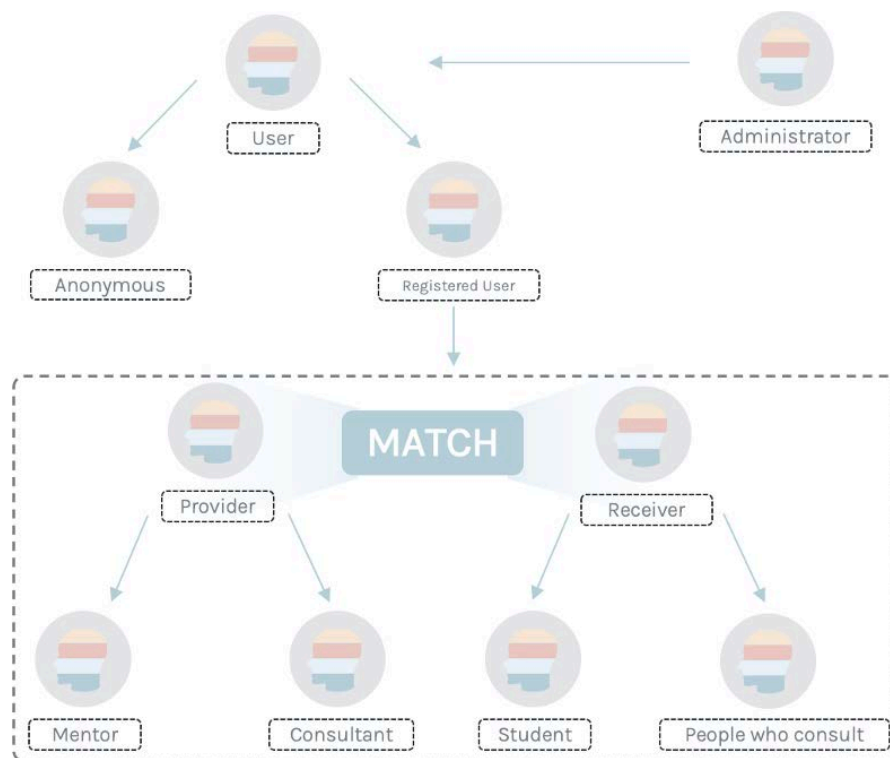


Figure 2.2 ProMe: User roles

# Chapter 3

## Design

### 3.1. Concept Design

Based on the literature review and case analysis, this research proposes the concept of an intergenerational knowledge sharing platform called iShare that encourages the elderly in remaining mentally engaged through intergenerational sharing of their accumulated knowledge and interests in the digital era.

iShare aims to foster interaction between the two age groups. Often, older adults are being seen as fragile and are more reliant on intergenerational assistance from the receiving side. iShare hopes to help elders become proactive in giving intergenerational support by utilizing their abundance of knowledge, experience, skills, and interests.

#### 3.1.1 Examples of Intergenerational Programs and Their Characteristics

Factors such as the advancement of modern technology, the reduction of leisure time, and the population's greater geographic mobility have increased the degree of intergenerational segregation. As a consequence of less chances to share valued resources, older adults, particularly those over 80, are more prone to isolation and social inequity.

Within the context of the digital world, the majority of these intergenerational programs focus on enhancing the seniors' ICT (Information Communication Technology) abilities. The objective is to enhance older individuals' digital capacities, so that the digital divide between generations will be bridged by reducing technophobia and ageism among the elderly as a result of their inability to integrate into the information society, while assisting young people in preparing for future

work and life challenges and reducing their risk of social exclusion. The ultimate objective is to foster positive intergenerational interaction, lifelong learning, and social inclusion to their fullest extent.

Existing intergenerational programs mostly concentrate on organizing old and young people to co-create value, or on assisting the elderly in adapting to the digital age via increased familiarity with electronic devices for daily life, interpersonal communication, and information access. However, these endeavors focus mostly on how to engage the elderly, but they overlook the why, that is, they lack an understanding of the seniors' true needs and expectations, since these programs put the old in a vulnerable position to of needing assistance in the first place.

The emergence of an increasing number of elderly KOLs on social media demonstrates the importance of shifting negative views toward the elderly and recognizing their personal value and autonomy, which is critical in motivating the elderly to actively use their accumulated experience and knowledge to participate in social activities. It is critical to concentrate on the higher requirements of the spirit and the worth of the individual's contribution to society as the next generation that has adapted to the digital age ages, when technology is no longer a barrier.

Another point to make is that these programs are essentially offline gatherings that are community-centered and care-themed, and hence are confined to geographic location and the physical condition of the elderly. Consequently, they cover a narrower spectrum of target groups in the real world.

Intergenerational Programs	Objectives	Characteristics	Scenarios
<p><b>Australia</b> Royal South Street Society in Ballarat</p>	<p>Create an age-friendly environment to get senior citizens involved in local recreational activities. During the artistic coaching process, older volunteers increase their coaching and mentoring skills, while the youth improve their learning of artistic and social skills.</p>	<p>Older volunteers facilitate youths' learning by providing encouragement, reinforcing the competitors' artistic skills and enabling the competitors to learn social skills and confidence. Competitors and volunteers learn together that intrinsic rewards (a sense of achievement, a place in arts and practice, personal learning and aesthetic development) outweighs extrinsic values (winning).</p>	<p>Local communities</p>
<p><b>Spain</b> Nu Gran University of Valencia</p>	<p>Older individuals are co-learners who receive content knowledge as well as a sense of self-worth as a result of intergenerational exchange in the classroom. Younger students improve their social abilities as well as their capacity to deal with personal issues.</p>	<p>Older and younger participants communicate and interact as peers while learning academic content and getting to know each other better. The program aims to develop deeper intergenerational relationships.</p>	<p>Local communities; Nursing homes</p>
<p><b>Netherlands</b> Mirror of Talents</p>	<p>Give older adults the opportunity to describe their life stories and have young people act them out to get to know each other better.</p>	<p>The target groups are older people in local adult education centers and young people in drama training schools in the Netherlands. Life stories are written by older people which are then performed and recorded by younger people.</p>	<p>Training institutions</p>
<p><b>European</b> Strategies Towards Active Citizenship (STAC)-"Let's Rebuild Our Story"</p>	<p>Build learning communities for active aging based on intergenerational and intercultural exchange between older and younger adults.</p>	<p>Young people teach older people how to use new technologies to meet their daily needs, such as communicating with distant relatives through social networks, shopping online on their own, paying bills, etc.. On the other hand, older people tell their personal stories to provide informal learning opportunities for young people.</p>	<p>Local communities</p>
<p><b>U.S.</b> Intergenerational Engineering University of Pittsburgh</p>	<p>Foreign students are expected to improve English skills and develop meaningful and lasting relationships with mentors. Mentor retirees are expected to renew skills in engineering and develop friendships with faculty and students.</p>	<p>Retired engineers relearn what was forgotten in retirement and work with students to co-create instruction/learning modules adapted to the new university teaching environment.</p>	<p>Universities</p>
<p><b>European</b> Intergenerational Bonding via Creative New Media</p>	<p>Innovative use of new media to bridge the generational gap and digital divide by providing a new space for creative exchange between generations.</p>	<p>Young and old co-produce art media products, such as short films, audio guides to art exhibitions, media collages or live images.</p>	<p>Organizations such as schools, museums, youth or senior associations</p>

Figure 3.1 Examples of intergenerational programs and their characteristics

### 3.1.2 Survey and Interview

A survey of young generations and one-on-one interviews with both generations were conducted to better understand the needs and expectations of the target users.

In general, older and younger individuals are referred to as the two generations in intergenerational relationships. The younger generations are defined as those between the ages of 18 and 30 in this study. The elderly, on the other hand, are those between the ages of 65 and 80. In addition, this research includes people aged 55 to 65 who are in the pre-retirement period of life.

A total of 250 surveys were distributed to the target population of 18-30 year olds through online social media and communities, of which 202 valid responses were collected. 12 one-on-one interviews with younger generations from various backgrounds were carried out in parallel. A total of 8 one-on-one interviews with persons aged 55-70 were performed to explore their desires and concerns about intergenerational sharing through digital media (4 with people aged 55-65, 4 with people aged 65-80).

#### Survey Result

A total of 52% of valid responses are from current students, 42% are working and have full time employment, and 6% are currently on a gap year (study or work). The majority of the respondents are between the ages of 23 and 26, and are either about to graduate or have just begun working. In general, individuals in this age group are at a crossroads in their lives, and most of them are unsure and perplexed about life and work. On the other hand, they have a lot of personality, engage in active thinking, and are well-versed in current trends.



Figure 3.2 Demographics from survey results

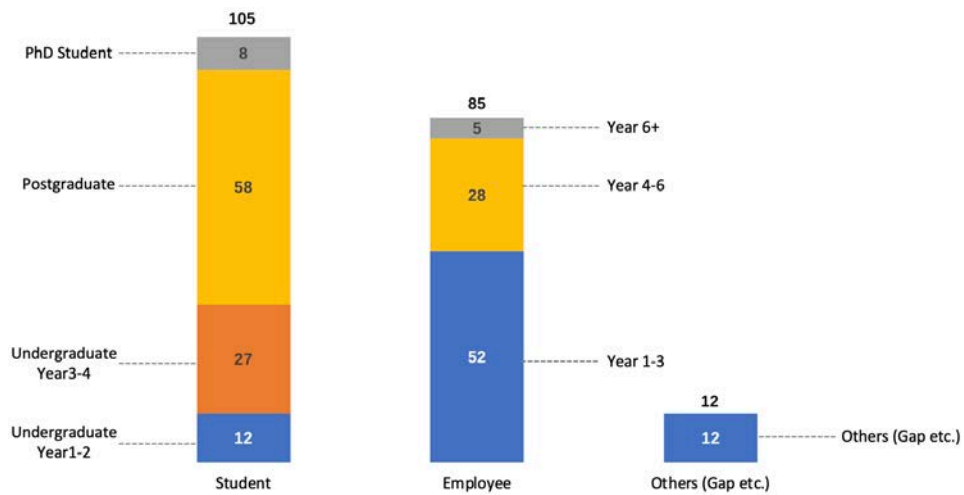


Figure 3.3 Demographics in detail

In terms of intergenerational communication frequency per week during the past three months, survey results indicate that the majority of respondents communicate with the elderly six to ten times each week. The majority of intergenerational communication that includes sharing and discussion behaviors lasted less than ten minutes. Over 30-minute long conversations occurred mostly at work or when the respondent was ready to enter a new phase of life, such as marriage. The results indicate that intergenerational interactions occur less frequently and for a shorter period of time in daily life. That is, young people's no awareness of having intergenerational interaction proactively.



Figure 3.4 Status quo: Intergenerational communication

Regarding the topics discussed during intergenerational conversations, 89% said that caring-related topics such as health were discussed the most, followed by study and work-related topics at 72%. 40% would discuss experience and value-related topics, while only 14% would discuss interests. However, shallow conversations and caring topics occupy the majority and some even end in discord.

To summarize, intergenerational conversations featuring deeper insights occur less often, and when they do, the survey discovered that the topics mentioned could be connected to the seniors' experience, skills, and interests. Young people may also contribute to this communication process by introducing current trends and introducing new ideas and thoughts.

After being introduced to the iShare concept, 89% expressed interest and willingness to use the platform, and their preferred topics are as seen in the accompanying Figure 3.7.



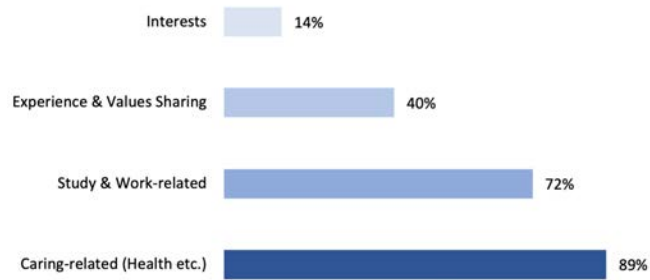


Figure 3.5 Status quo: Topics in intergenerational communication

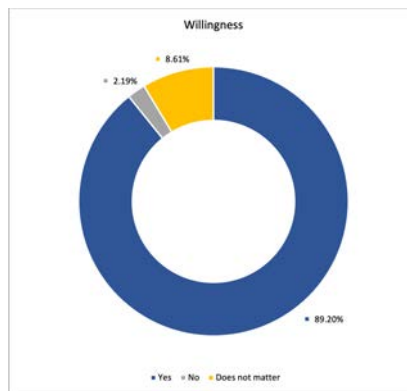


Figure 3.6 Willingness to use iShare from young people

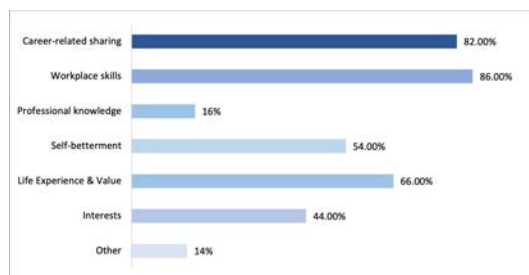


Figure 3.7 Preferred topics in intergenerational communication

### Interview Result From the Perspective of Younger Generation

In order to find out the current pain points, target users' needs and expectations, and to evaluate the ideation of iShare concept, in-depth interviews with young adults aged 18-30 who have different academic backgrounds were conducted.

Participants were first introduced to the iShare concept and then were asked to express their thoughts and responded to the questions in details.

#### Main Questions

- Question 1: Would you like to consider iShare as a source of acquiring relevant information or advice on career development or expertise by asking a question/searching here?
- Question 2: Would you like to share your career-related thoughts, knowledge, or interests with retired professionals on iShare?
- Question 3: What kind of questions would you like to ask/search for/hope to be answered on iShare?
- Question 4: What functions do you desire on iShare?
- Question 5: At what stage and in what scenario do you think you might use iShare most frequently?
- Question 6 : What impact do you think such intergenerational exchange opportunities provided by iShare will have on you and the elderly?

#### Findings

For iShare concept, this section summarized the results of the interview from the aspects of willingness, motivation, need and expectation, and concerns.

- **Willingness:** By and large, if an intergenerational communication platform exists, the younger generation is eager to experiment with it. They responded that the seniors with whom they frequently speak are typically family members, and that because young people are hesitant to disclose their actual thoughts, they do not take the initiative to open their hearts to receive assistance or engage in deeper conversation. The younger generation, on the other hand, may get expertise and reminders from seniors outside the family, who can offer guidance from a variety of

perspectives on how to face current uncertainties or aid in self-growth. As a result, young people are less compelled to express themselves in the virtual environment and become inspired. Additionally, the interview found that young people often disregard elders' counsel and avoid communication with parents. Rather than that, they are more receptive to outsiders' suggestions. Through this type of communication, which broadens the social circle and is inspired by extrafamilial intergenerational communication, young people might develop a stronger understanding for their family elders, which helps intergenerational relations inside the family.

- **Motivations:** Young people expressed a desire to learn more about career development and professional interpersonal communication skills, such as dispute resolution, throughout the interview. Additionally, they are curious about the elderly's values and life experiences. They stated that communicating with the elderly may assist them in better comprehending complex situations, as the elderly often have extensive professional experience and may have unique opinions on a variety of topics. By learning from the mistakes that seniors have made, young people can more effectively plan their professional paths and avoid detours. Moreover, the expertise of predecessors will be extremely beneficial in sectors such as health and literature that require long-term experience accumulation.

Young people stated that career-related communication takes place primarily between peers or those with two or three years more job experience. Thereby, young individuals may acquire thoughts and proposals that are restricted to the present, and peers cannot intuitively show what they will look like after ten or twenty years of work life. Young individuals may acquire thoughts and proposals that are restricted to the present, and peers cannot intuitively show what they will look like after ten or twenty years of work life. Several respondents also stated that it is beneficial to clarify one's own position and generate new ideas by conversing with a variety of people, particularly those with extensive experience in a particular industry.

Additionally, several young people said that having the chance to learn more about the elders' lives inspires them and provides them with a feeling of engagement in the history, which would be very interesting.

The young are eager to share new technology, expertise, and ideas with the elderly, as well as career-related decisions and workplace experiences, such as the obstacles

they have in their jobs and personal lives, as well as the solutions they find, seeking feedback and advice from the elders. Furthermore, they noted that if the elderly are interested in contemporary trends and what young people like today, they are extremely happy to share. They stated that it would be great if they could push retired seniors in this manner to pursue their passions or realize unfulfilled dreams when they were young.

- **Needs and expectations:** On the iShare platform, young people said that they prefer text-based communication but also value the possibility for face-to-face interaction. They emphasized the importance of discussion among retired experienced professionals. Simultaneously, several respondents expressed desire for the inclusion of the Networking Circle function, which enables them to expand their network by utilizing the resources accumulated by seniors.

Likewise, respondents indicated that they would like to use iShare 1-2 years prior to graduation or for the first five years of employment, as this is the initial stage of social identity transformation and they are generally confused, hoping to quickly adapt to the workplace and develop a clear career path. On the other hand, some respondents indicated that, while there are more direct means for acquiring useful information (such as chats with line supervisors and coworkers), they would consider iShare as an alternative to obtain information.

In terms of usage scenarios, young people said that they would be willing to use iShare in a more casual setting, such as before bedtime or during a ten-minute break between courses.

- **Concerns:** According to young respondents, the elderly may not be up to date on professional and technological advancements. Rather than that, young individuals can acquire the latest knowledge and solve problems more quickly by reading literature, searching online, or contacting specialists. Furthermore, because technology and industry trends are constantly changing and career development is influenced by a variety of external factors, previous expertise and abilities may become obsolete.

On the other hand, participants voiced reservations about the shared content's authority and authenticity. Due to the unique circumstances of the time period or scenario, the ability to identify misleading information is highly required.

Another concern is the generational divide. With the abundance of social media platforms, it may be difficult to motivate young people to actively communicate

their issues with the elderly on iShare. Young people are concerned that, as a result of their age and experience gaps, they would feel preached at about elder sharing.

Likewise, older adults may be less familiar with internet communication than younger adults. They grew up in an era when interpersonal relationships were relatively simple. However, disrespectful and unpleasant virtual conversations are common in the digital world, which may result in negative feelings as a result of culture shock. Even if young people frequently experience anxiety and negative emotions as a result of social media, the elderly may have a harder time overcoming this psychological barrier, which may decrease their willingness to share, and participate in the virtual world.

The majority of participants indicated satisfaction with intergenerational communication or showed neutrality about it. On the other hand, technological barriers among seniors, differences in lifestyles (e.g., younger persons who were too busy to speak with the elderly) and resentment at being stereotyped were often noted as reasons for frustration with intergenerational communication.

To conclude, overall young people have a positive attitude toward the iShare concept and are willing to have more channels in life to promote intergenerational exchanges.

### **Interview Result From the Perspective of the Elderly**

On the other hand, 8 one-on-one interviews with the elderly (4 with people aged 55-65, 4 with people aged 65-80) were also conducted to find out their motivations and concerns towards iShare concept. Similarly, participants were first introduced to the iShare concept and then asked to express their thoughts and responded to the questions in details.

#### **Main Questions**

- Question 1: Would you like to consider iShare as a source of communication access with the younger generation ?
- Question 2: Would you like to share your career-related thoughts, knowledge, or interests with younger generation on iShare?
- Question 3: What kind of topics would you like to share with the younger generation?

- Question 4: What functions do you desire on iShare?
- Question 6 : How do you evaluate such intergenerational exchange opportunities provided by iShare?
- Question 7: Do you have any other comments or concerns about iShare?

## Findings

For the elderly who participated in the interview, the answers were summarized from four aspects: willingness, motivation, needs and expectations and concerns.

- **Willingness:** The elderly expressed their enthusiasm for the iShare concept and their wish to engage in more in-depth talks with the youth during the interview. They noted that extrafamilial intergenerational interactions are currently more limited to offline community care activities that are inflexible in time and location. Reduced social interactions after retirement, along with their children's busy work and school commitments, result in feelings of isolation. Furthermore, the elderly claimed that they possessed a wealth of information and insights to share with young people, and that if they could assist, they would develop a sense of accomplishment. Conversely, a young person's fresh ideas help to keep them energized and motivated.
- **Motivations:** According to interviews, the elderly have a wealth of work and life experience, and some have accumulated extensive professional and practical skills in sectors such as medicine and law. The elderly expressed regret and sadness at the prospect of gradually losing their talents and expertise when they retired. Some elderly people stated that they could assist in reducing young people's current overall anxiety since they can provide guidance from a more macro and long-term viewpoint. Moreover, they would be glad to learn that their children might be instructed in this manner by other experienced elders.

A surprising percentage of respondents asserted that they are willing to adopt digital trends and should not be viewed as obsolete in the digital world. With the advent of short videos, a growing number of older KOLs are expressing their lifestyles and thoughts on digital social media. They added that such KOLs inspired them to share and engage, in order for young people to see that the elderly can be cool too.

In terms of hobbies, several of the elderly indicated that they were confident in their knowledge and experience regarding their interests and hobbies, and that they looked forward to sharing and making friends with the young.

- **Needs and expectations:** Respondents expressed the desire that the iShare concept's function may include an intuitive and concise interface, which can reduce some of the elderly's aversion towards digital platforms and online social networking. Simultaneously, a straightforward and accessible guideline is necessary. Also, respondents expressed a need for a community that would connect them with others who worked in relevant or different industries.
- **Concerns:** The elderly were afraid of being unable to master the Internet skills, which would result in a resistant mood. Even if they found intergenerational engagement through iShare desirable, they would be hesitant to join in the sharing activity as a result of this aversion. Moreover, negative information about the Internet, such as online fraud and data leaks, adds to their suspicion and discourages them from using it.

While some older adults acknowledge the busy lifestyles of young ones as a problem, overall they expressed support for the iShare idea and are eager to have more channels for intergenerational engagement in their daily life.



Figure 3.8 Interview transcript



## 3.2. Persona

Personas are classified into two groups based on the results of surveys and one-on-one interviews. The first category includes young people who are nearing graduation from university and confronted with career choices. They have an active mind, a busy lifestyle, and a passion for social media; the second category is retired seniors who have accumulated a wealth of professional and practical knowledge throughout their personal and professional lives. They have more free time, are more open to social interaction, and are more actively involved in the development of their interests and hobbies.

### 3.2.1 Young People

They wish to accelerate their career path but are concerned about the amount of time it will take. They place an emphasis on time and tend to plan ahead of time. They grew up in the digital age and are comfortable with technology. They tend to have higher subjective initiative and are motivated by career advancement in terms of career development. They actively seek for opportunities to network.



Figure 3.9 Young people



**Samantha Williams**  
70 • Ex-Lawyer • Live with Husband

**Motivations**

CONVENIENCE	* * * * *
TOPICS	* * *
SOCIAL	* * *

**Goals**

- to build new connections
- to utilize accumulated knowledge and skills
- to close digital gap and enjoy technology

**Pain Points**

- feeling of purpose loss after retirement
- lack the motivation to build new connections
- technological barriers

**Frequently Used Apps**

WhatsApp, TikTok

**“** I don't know who I am without my once active and social life **”**

**Bio** Samantha worked as an international law attorney and has accumulated great professional and practical expertise throughout her work life. She lives with her husband in Washonton. She loves photography and enjoys talking with young people to get to know the hot topics.

Figure 3.10 Elderly people

### 3.2.2 The elderly

In urban communities, the elderly aged 60 to 70 exhibit the following three outstanding features in terms of personality and social participation. To begin, they have a higher degree of education and are more receptive to new knowledge and information. Second, they are willing to accept the experience provided by evolving technologies and to experiment with new technologies, as well as to communicate online via social media. Thirdly, they are emotionally secure and healthy, willing to socialize and cultivate their own interests. Moreover, they are willing to participate actively in local peer interest group activities.

## 3.3. Customer Journey Map

Based on the personas described previously, the customer journey was mapped and the target users' pain points were identified as follows:

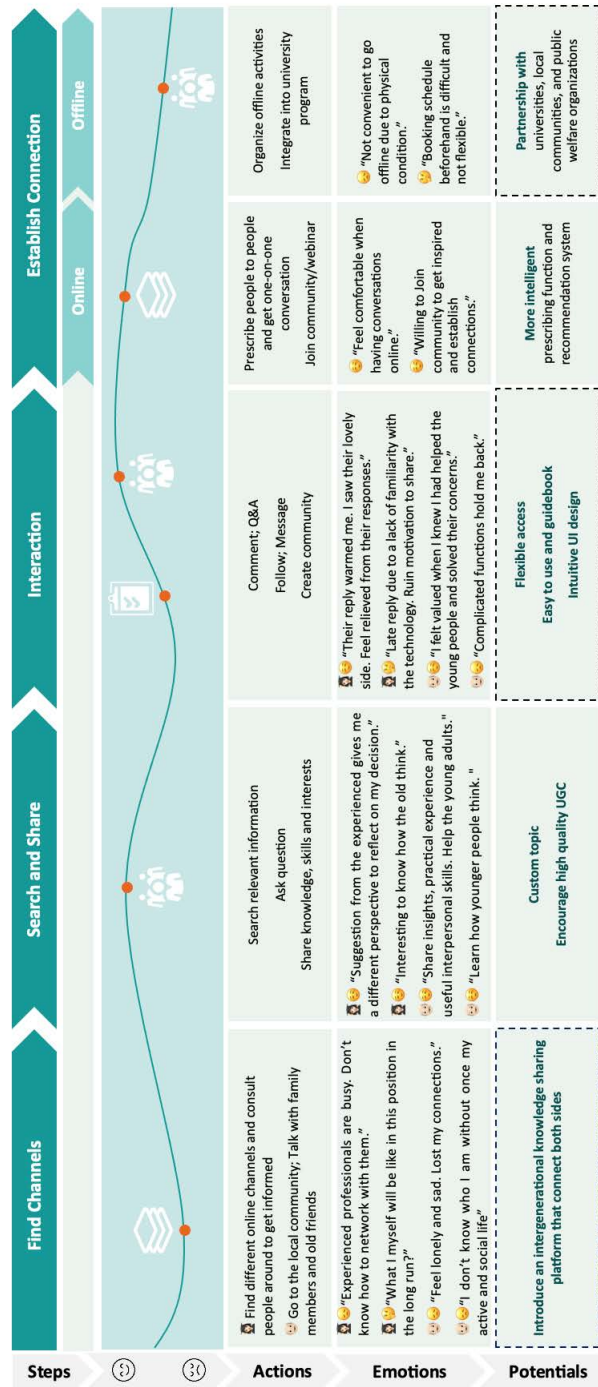


Figure 3.11 Customer journey map

### 3.4. Prototype

This section developed the iShare concept prototype and detailed the functionality of each component of iShare as an application that enables intergenerational knowledge sharing of accumulated knowledge, skills, and interests.

#### 3.4.1 Design Sketch

The design sketch was created based on the interview and survey results.

iShare provides two kinds of login accounts, one for seniors and the other for young people, and recommendation system differs accordingly.

iShare is structured into three segments: a sharing area, a QA area, and an activity area for providing information about online seminars and offline events.

Users can explore the discussion, contribute answers to questions pushed to the main page, and even choose to become a knowledge provider or sharer.

Also, iShare categorizes communities according to academic backgrounds, career fields, and interests, etc., allowing users to easily expand their social circle.

iShare matches users based on professional background, interests, etc., facilitating the process of connecting and networking.

Moreover, iShare offers an event portal where users can search for online seminars and offline events. Users can subscribe to multiple activities with a single click.

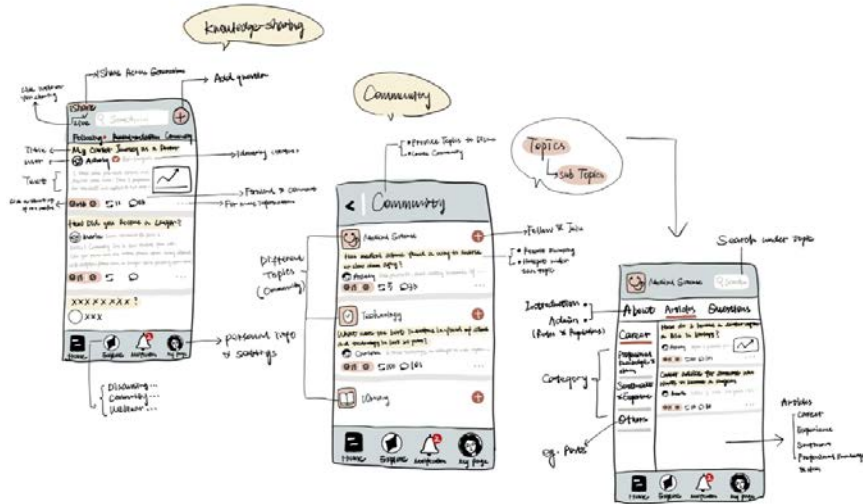


Figure 3.12 iShare concept

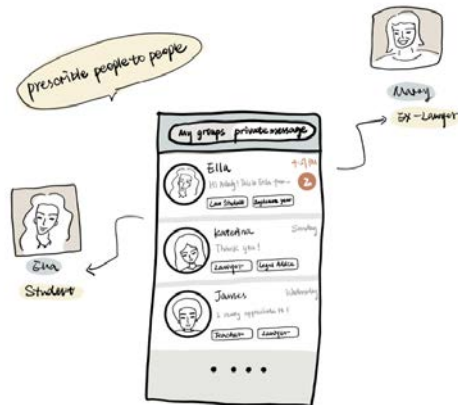


Figure 3.13 Prescribe people to people

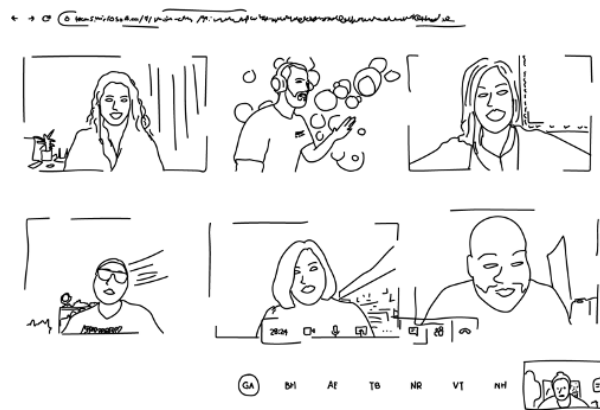


Figure 3.14 Activities to maintain and further develop connection

### 3.4.2 Main Function

Apart from the fundamental functions such as notification and my page, the most vital and active components are the content viewing and creation functions, which serve as a catalyst for both sides to participate actively in the intergenerational activity of discussion and knowledge exchange.

In terms of notification, users will be notified when they obtain likes or upvotes, comments, and forwards, as well as when they receive messages from other users or official accounts. My website offers both an internal and external profile where you can introduce and appeal to the public in a comfortable way.

Content viewing is divided into interaction sector and exhibition sector. Interactions such as commenting, voting, and liking advance the process of knowledge sharing and encourage users to create more high-quality content. Exhibitions are the contents that consumers browse through the interface. It features a recommended content section, a trending list, an entrance to a community or activity, and a search engine.

Content production is the most active sector where both parties are driven to express their opinions, lives, and worries. Interactions between users aid in the growth of new connections and inspiration.

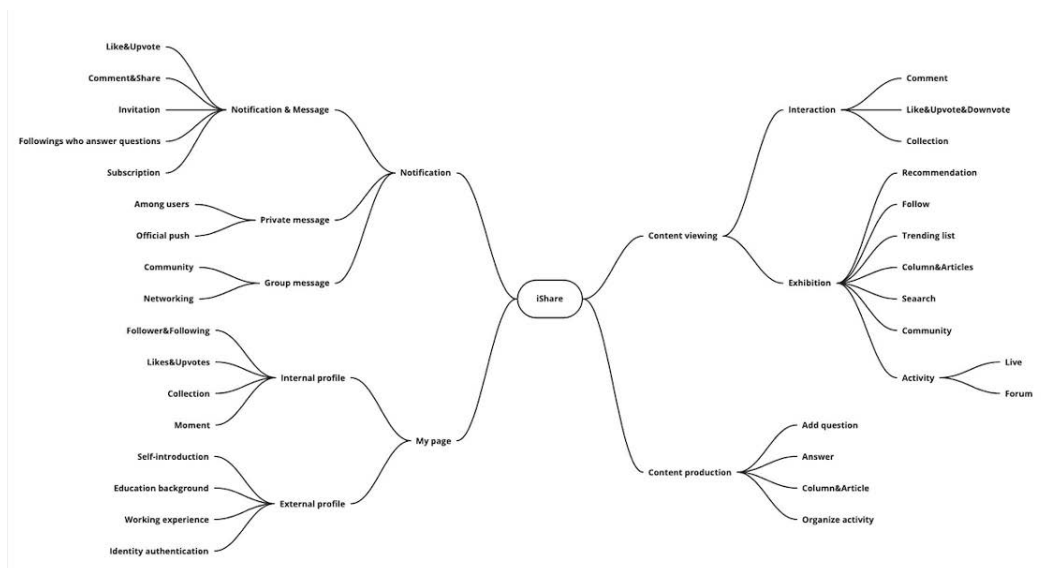


Figure 3.15 Main functions of iShare

### 3.4.3 UI Design

#### Login Page

Users can select their login accounts following the question "Who are you?" on the login page. Sliding left and right to switch between the Seniors' and Young People's portals. When a user selects an account, the recommendation system will automatically push corresponding content that has been asked or shared by the opposite. For instance, if a student checks in via the young people's login page, he will receive posts and shares mainly from the elderly, and vice versa.

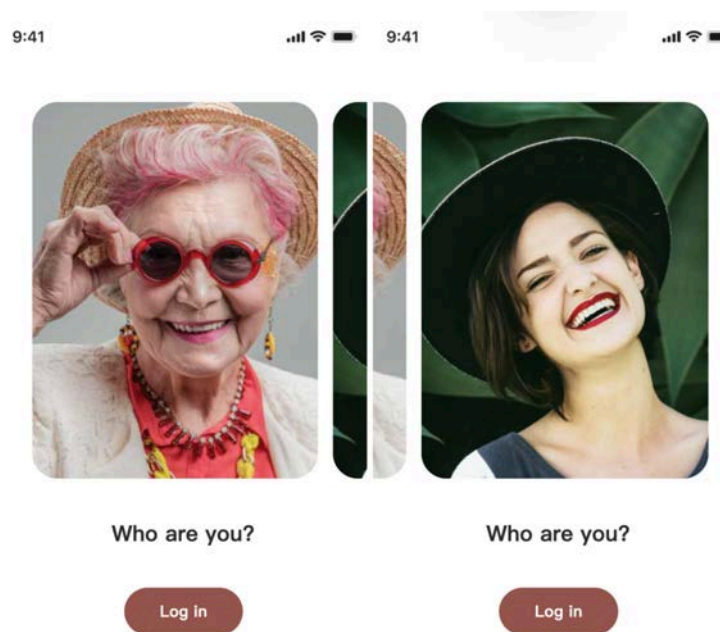


Figure 3.16 Login page: Choose account

#### Home Page

After logging into their account, users can select from one of the following four parts. There are sections for ideas (sharing and insight), QA, and activities, which contain information about various online and offline activities. Users can browse content by category after entering each area.

Also, the help button at the bottom will walk users step by step to guide them how to use the application in a more intuitive manner (by providing options such as video

guide), as well as provide FAQs for reference. This is a critical component of developing a user-friendly and intuitive application.

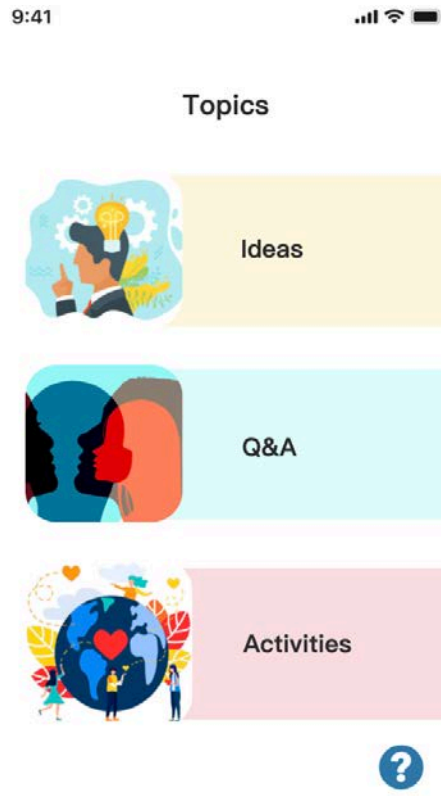


Figure 3.17 Home page of iShare

### Post

Shares of insights, ideas, concerns, and interests will be pushed to users based on their personas via the recommendation system. Users scan the message and click in to view the stuff that piques their interest. Users (either from the same elderly or young demographic, or from different demographics) come together around a common issue and offer their perspectives, communicating with one another via comments, likes, votes, and messages. This enables intergenerational conversation and knowledge sharing.



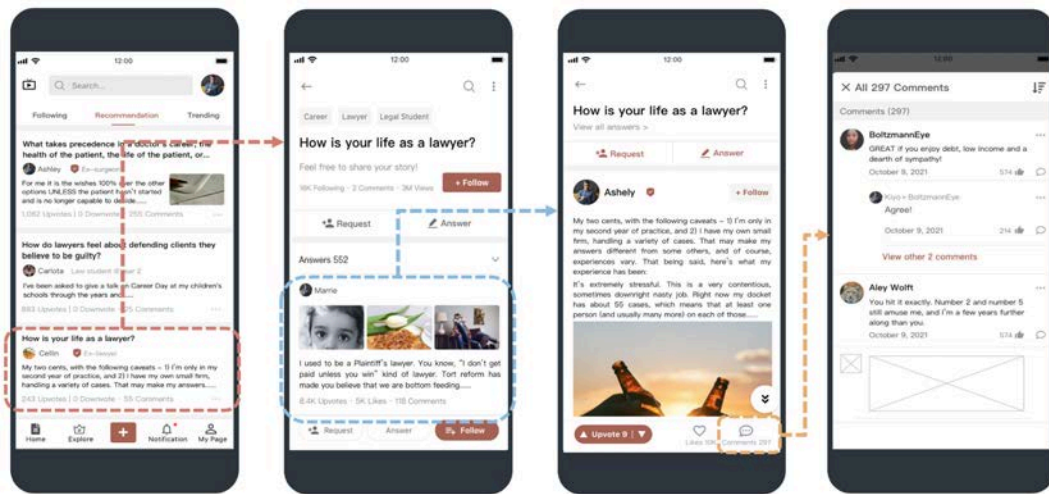


Figure 3.18 Posts on iShare

By integrating a community function, iShare enables users to effectively find relevant and useful information. Users can select the community in which they are interested and join with a single click on the Join button. The purpose of community is to keep individuals connected and to foster a sense of belonging. In intergenerational knowledge sharing occurs here frequently.

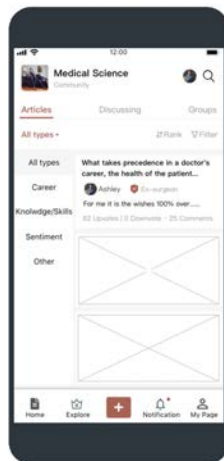


Figure 3.19 Community on iShare

### Prescribe People to People

The interaction function of prescribing people to people aids in increasing the efficiency of networking. Young individuals can initiate one-on-one conversations with elders who have worked in or have a similar professional background to their intended occupation. Or both parties just share similar interests, and this function enables users to engage in meaningful conversation and learn more about one another.

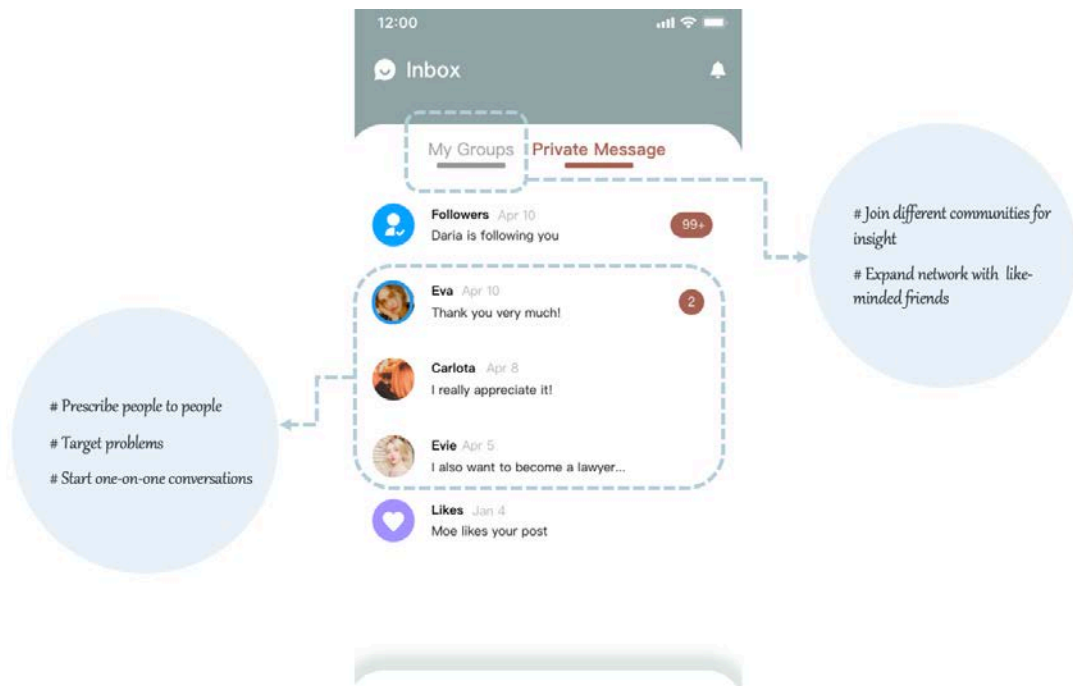


Figure 3.20 Prescribe people to people

### Maintain and Deepen Relationship

While iShare facilitates the establishment of new intergenerational connections, it is critical to preserve and deepen existing connections. That is, develop relationships with people across generations and maintain contact. Apart from text communication on iShare, both elderly people and students highlighted real-time, face-to-face discussion via Live or the offline sharing forum. As a result, iShare provides the ability for users to subscribe to the activities that interest them with a single click. This mixed mode is thought to be a good compensation to the virtual interaction experience, serving as a bridge to strengthen existing ties.

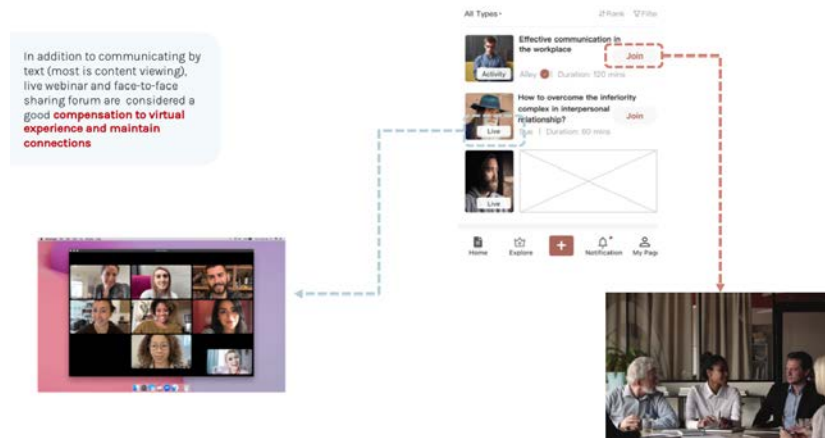


Figure 3.21 Activities provided by iShare

### 3.4.4 Implementation

Prototyping software Mockplus<sup>1</sup> was used to design the prototype and simulate the interaction pattern when using iShare. The prototype can be built to simulate the interaction of real usage scenarios on mobile (iPhone).

Based on this prototype, this research conducted user tests by explaining the iShare concept and basic usage to the target users. Then the author observed the whole process of target users when using iShare. Afterwards, one-on-one interviews and analysis were conducted to evaluate and further develop iShare concept.

1 <https://www.mockplus.com/>

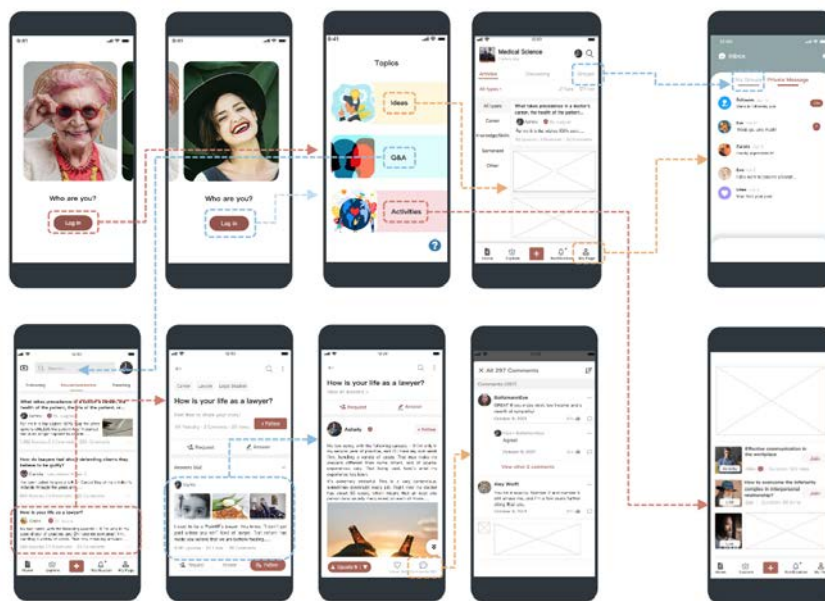


Figure 3.22 UX design for iShare

# Chapter 4

## Evaluation

### 4.1. Methodology

Knowledge sharing is usually a two-way street between two parties: knowledge providers and knowledge recipients. A person may simultaneously take the identities of knowledge provider and knowledge receiver, and the original knowledge provider may likewise take the identity of another knowledge receiver. This research views knowledge sharing as an interactive process that entails the following:

- Firstly, there exists knowledge that can be shared;
- Secondly, both parties have the willingness and ability to share knowledge;
- Thirdly, there exists a system that can guarantee the effective implementation of this sharing process;
- Fourthly, new abilities are formed through knowledge sharing.

The first two points were verified in Chapter 3 Design through survey and interview responses, and were expanded on slightly in this chapter throughout the evaluation process. This section examined the concept's effect on the final two points: promoting intergenerational knowledge sharing and developing harmonious intergenerational relationships.

According to survey and interview results in the Design Chapter, the target users' needs and expectations have been clarified, so as to determining proposed functions and services that iShare should provide. Therefore, in the following evaluation part, in order to find out the key elements that contribute to successful intergenerational knowledge sharing experience, Kano model was introduced to analyze and classify the suggested functions and their associated satisfaction elements.

In the user test section, the psychological and emotional aspects of older adults and young adults were also considered, focusing on subjective feelings prior to using iShare,

engagement and interactivity during use, and emotional changes after use. By this way, this research evaluated the social significance of iShare: to facilitate mutual understanding, intergenerational reciprocity, and social engagement, thereby shifting the public's perspective of elders from vulnerable to visible.

Evaluation flow was conducted as follows:

1. Select experimental participants. 10 seniors and 17 young people took part in the Kano questionnaires. The studied group was the focused group selected from the one that completed survey and interviews in the Design Chapter before.  
Afterwards, 3 retired senior from the field of medicine, law and management, and 3 young adults aged 22-28 from diverse backgrounds were invited to complete the user test. The author introduced the iShare concept and explained how to use the prototype to the participants, ensuring that they understood the concept correctly.
2. Conduct user test. The user test was carried out using the iShare prototype. The author observed the target users' behavior, performance, and thoughts throughout the evaluation process.
3. Assessment. In-depth interviews were conducted with participants following the test, and the effect of iShare concept was evaluated using predetermined assessment criteria.
4. Summary and feedback. Collected and summarized participant feedback on the concept, as well as clarified areas for future improvement.

## 4.2. Kano Model Analysis

### 4.2.1 Analysis of Kano Questionnaire Results

Kano's model is used in service design to identify users' needs and analyze service functionalities. The questionnaire relates to the quality components of the proposed iShare functionalities and their associated satisfaction criteria. A customer satisfaction coefficient measures consumer satisfaction. The coefficient rises when the design meets the criteria and vice versa. Calculating average customer satisfaction provides a valuable

overview of service design and isolates the impacts of particular service requests. This coefficient is calculated as follows<sup>1</sup>:

$$\text{Satisfaction Coefficient} = \frac{A + O}{A + O + M + I} \quad (4.1)$$

$$\text{Dissatisfaction Coefficient} = -\frac{O + M}{A + O + M + I} \quad (4.2)$$

From 0 to 1, a positive customer satisfaction coefficient has a stronger impact on customer satisfaction. Negative consumer satisfaction works similarly. Having a satisfaction rating of 0 indicates that this characteristic does not result in discontent when it is not satisfied. The customer satisfaction coefficients for iShare are shown in the figure below. As a result of this information, this research was able to determine which features and services, if provided or not provided, would result in the customer being satisfied or dissatisfied throughout the service design process.

*Participants: 10 seniors, 17 young people*

Dimension	Assesed Characteristics	A	O	M	I	R	Total	Category	SC	DC
Service	Login with different identities	14	7	2	4	0	27	A	0.78	-0.33
	QA-based interaction	10	15	2	0	0	27	O	0.93	-0.63
	Sharing-based interaction	8	16	3	0	0	27	O	0.89	-0.70
	Lives and webinars	14	8	2	3	0	27	A	0.81	-0.37
	Offline activities	10	14	2	1	0	27	O	0.89	-0.59
	Custom and co-creation topics	10	8	7	2	0	27	A	0.67	-0.56
	Online community	7	14	6	0	0	27	O	0.78	-0.74
Direct interaction	Comments and Feedback functio	17	7	1	2	0	27	A	0.89	-0.30
	Networking	9	10	3	5	0	27	O	0.70	-0.48
	Matching	10	15	1	1	0	27	O	0.93	-0.59
	Chat with users of different ages	5	17	5	0	0	27	O	0.81	-0.81
	Chat with users of the same ages	8	13	6	0	0	27	O	0.78	-0.70
Information	Trends info push	12	9	3	3	0	27	A	0.78	-0.44
	Latest professional info push	13	5	5	4	0	27	A	0.67	-0.37
Accessibility	App download	0	0	3	10	14	27	R	0.00	-0.23
	Virtual user guidebook	2	9	16	0	0	27	M	0.41	-0.93
	Voice-controlled interfaces	8	7	4	8	0	27	A	0.56	-0.41
	Speech recognition	4	4	17	2	0	27	M	0.30	-0.78
	UX accessibility for elderly	3	4	19	1	0	27	M	0.26	-0.85

\*The abbreviations used in the evaluation table represent one-dimensional requirements (O), attractive requirements (A), must-be requirements (M), indifferent requirements (I), and reverse requirements (R)

Figure 4.1 Customer satisfaction coefficient results

There were a total of 27 Kano questionnaires completed, including 10 from seniors and 17 from youth. The focused group was chosen from those who completed the survey and interviews in the previous Design Chapter. The questionnaires grouped the

1 <https://www.career.pm/briefings/kano-model>

assessed characteristics into 4 dimensions: service, direct interaction, information and accessibility.

The service dimension denotes the service provided by iShare in order to encourage intergenerational interaction. The results indicate that participants see QA-based, sharing-based, virtual community, and offline contact functions as effective motivators for continuing to participate in the intergenerational knowledge sharing process. Additionally, functions such as multi-identity login and virtual lives are considered desirable. Users can explore information more accurately when they log in with their corresponding identities. Virtual lives expand the chances for knowledge sharing in a flexible manner. Both sides seem to favor co-creation experience, and hence the custom topics and co-creation sections featured in iShare have the potential to significantly enhance customer satisfaction.

Direct interaction is a more intimate level of interaction among target users, such as one-on-one conversations with individuals who they want to create deep bonds. Networking, matching and chatting functions are viewed as one-dimensional characteristics, indicating both young people and seniors have strong desire to connect with people who they liked or wanted to be like, and iShare provides them this intergenerational interaction opportunities that happen rarely in daily life. The comments and feedback feature is intended to help users lessen and prevent communication breakdowns caused by generation gaps by allowing them to write and receive suggestions, advice, and feedback on their style of interacting. This feature of iShare is considered attractive and beneficial since it significantly reduces communication costs and, to a certain degree, ensures harmonious intergenerational communication.

The information dimension assesses the function in terms of any knowledge gaps. Attractive features include trends and the most recent professional information push function. Participants believe that after retirement, knowledge and expertise become obsolete, rendering knowledge sharing ineffective, and those functions embedded act as a way to close the gap. Furthermore, elders may discover trendy topics and catchphrases used by young people, which can help them establish a feeling of involvement. Thus, such functions may help close the knowledge gap while also facilitating lifelong learning.

In terms of accessibility dimension, an age-friendly user interface and user experience are seen as a must-have feature, which includes speech recognition and voice-controlled interfaces that take into account their decreasing hand flexibility and eyesight. Even though older adults dislike interacting with sophisticated technologies, inherent technical challenges and the need to acquire new skills are more easily accepted when seniors are aware of clear support to help in bridging the technology divide. An intuitive virtual





Attractive requirements (excitement needs)	One dimensional requirements (expected needs)	Must-be requirements (basic needs)
1. Login with different identities	1. QA-based interaction	1. Virtual user guidebook
2. Lives and webinars	2. Sharing-based interaction	2. Speech recognition
3. Custom and co-creation topics	3. Offline activities	3. UX accessibility for elderly
4. Comments and Feedback function	4. Online community	
5. Trends info push	5. Networking	
6. Latest professional info push	6. Matching	
7. Voice-controlled interfaces	7. Chat with users of different ages	
	8. Chat with users of the same ages	

Figure 4.3 Kano model analysis results

### 4.3. User Test

Along with the Kano model evaluation, which demonstrates how users value proposed functions and how those functions meet specific needs, user tests with three seniors and three young people were conducted to further assess the real user experience when engaging in intergenerational knowledge sharing on iShare. This section evaluates if and how iShare may successfully facilitate intergenerational knowledge exchange by taking psychological and emotional changes into account. Additionally, the impacts of iShare on the two ages are evaluated. Evaluation flow is as follows:

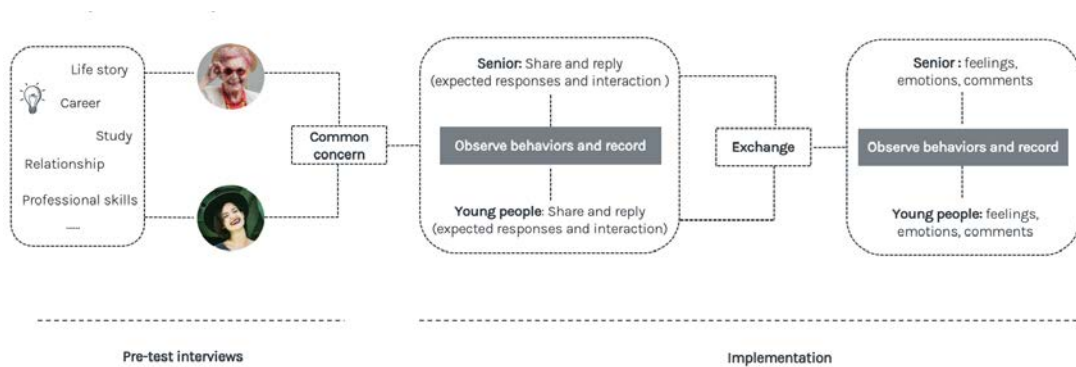


Figure 4.4 Preparation and implementation process

#### 4.3.1 User Profile

##### Elderly User 1

- Ex-cardiologist who retired at the age of 68

- Age: 73

Elderly user 1 is a 73-year-old retired cardiologist who lives in Chengdu, China. He studied abroad in Germany in the 1970s and earned his MD degree during his student years. He afterwards decided to return to China and concentrate on cardiovascular diseases in a hospital. He has amassed a wealth of clinical expertise over the course of his 40-year career.

Elderly user 1 lives with his wife, while his son and daughter work in a different city. They often contact through video call 2-3 times each week.

Although the elderly user 1 has some technical abilities, he remains puzzled and overwhelmed by the diversity of social networking applications available today.

Additionally, elderly user 1 joined a retirement choir and likes photography, though he has been attending less often lately owing to health conditions. He is now passionate in growing flowers and plants and decorating his home's roof garden.

Elderly user 1 loves communicating with youth because he believes it helps maintain his mind alive and fresh. He hopes that his life experiences and attitude towards life might serve as an inspiration for young people, since they are the world's future.

### **Elderly User 2**

- Ex-high school teacher who retired at the age of 55
- Age: 62

Elderly user 2 is a 62-year-old former high school mathematics teacher who taught for nearly 30 years before retiring at the age of 55. She resides in Tianjin, China, with her husband, while her daughter works abroad. Her graduate students often pay her visits, and she maintains contact with them even after she retired.

Elderly user 2 is fairly comfortable with smartphones and is a big fan of social media. She spends her free time browsing TikTok and even shoots TikTok videos for the purpose of recording her life. She said how delighted she is to get likes and comments on TikTok. Warmhearted comments and encouragement from young people inspire her to be more outspoken and to upload more videos.

### **Elderly User 3**

- Ex-automotive engineer who retired at the age of 60
- Age: 65

Elderly user 3 is a 65-year-old retired automotive engineer. He resides in Chengdu, China, with his wife and grandson, who is in middle school.

As a former automotive engineer, elderly user 3 has a wealth of professional knowledge and competence in the area of automatic transmissions. He retired as a regional engineer manager after spending 19 years with the same company. He now works part-time as an advisor for a startup company.

Elderly user 3 always follows news updates in his professional field even after his retirement. He said that it would be a shame if he lost the expertise he had gathered over the course of his career. He feels that continuing to learn is always a good thing, especially since technology advances at a breakneck pace.

### **Young User 1**

- Medical student majoring in radiology in year 4
- Age: 22

Young user 1 is a 22-year-old senior medical student now residing in Shanghai and considering whether to continue his studies overseas. User 1 has little contact with his family due to his heavy workload.

User 1 likes surfing the Internet and is active on a variety of social media platforms, where he loves sharing his life. Moreover, user 1 enjoys traveling and has visited over ten countries.

Because user 1 is required to work an internship over the holidays, he cannot stay at home for a long period of time. Thereby, he decided to teach his grandparents how to use video phone calls, saying that the process of teaching them step by step made him feel closer to them. Also, when they learned the technology, it gave him the sense that they had more common language.

### **Young User 2**

- Engineering student in second year of grad school
- Age: 25

Young user 2 is a 25-year-old engineering student in second year of grad school. Currently, she is studying abroad in America and hasn't been back to her home country for three years because of the COVID-19. She lives with her roommates who are in the same college as her.

She will have a phone chat with her parents every night before going to bed since she is studying abroad in a faraway nation.

User 2 is very passionate about beauty and cooking. She likes following beauty bloggers and food bloggers on social media and experimenting with the recipe. Influenced by the global rise of We media trend, she wants to start her own channel to share her life. She said that she is very happy when her sharing is seen by people and she receives likes and comments.

### **Young User 3**

- Marketing manager in FMCG industry
- Age: 28

Young user 3 works in the FMCG industry as a marketing manager. She joined her current company after completing her education in the United Kingdom, and she is now in her third year of employment.

User 3 lives in the same city as her parents and grandparents, but she now lives alone in a location closer to the workplace. On weekends, she visits her families.

User 3 is usually under a lot of stress at work, and during the sales season, she works extra until 10 p.m. every day. User 3 stated that she feels her life is already filled with work, but that she would like to work harder while she is still young. Owing to her hectic work schedule, she has had less time to communicate with her family.

Furthermore, user 3 stated that she feels greater pressure while communicating with her parents now that she has reached the age where she is deemed married. When she and her parents talk, they frequently bring up the topic of marriage, which haunts user 3, who is normally under a lot of stress at work. She said that today's parents are unaware of the pressures that young people face.

User 3 enjoys watching musicals because she can completely immerse herself in the universe created by the actors, which allows her to forget about her daily anxieties.

### **4.3.2 User Test**

**Date: November 3rd, 2021 and December 18th, 2021**

#### **Preparation**

The authors conducted pre-test interviews with older and younger target people three days prior to the user test, which aims to simulate the real experience of target users

while using iShare, in order to evaluate how iShare facilitates intergenerational knowledge sharing and improves social engagement. The author summarized the topics, ideas they wanted to share, and what they wanted to know about each other during the pre-test interviews. Following that, the areas of common concern were chosen to mimic the role of iShare, which is to match the demands of both parties. Furthermore, the authors asked both parties for comments on the two-way communication experience provided by iShare in terms of what they expected from each other in response to the ideas, thoughts, or questions they gave, as well as the type of interaction they expected.

### **Implementation**

- Step 1: Before the user test began, the author briefed the participants on the user test process and explained how to use the prototype. The author observed their behaviors during each phase of the procedure and recorded their feelings in terms of emotion and the application itself after each step was done.

The participant's response was shown to the other side in the interaction phase for the questions that were screened out during the preparation process, and the participant's sentiments and thoughts about the response were also recorded.

- Step 2: Showed the gathered replies in the second time to the corresponding party, observing and recording changes in their emotions after seeing the responses.
- Step 3: Conducted one-on-one interviews with users who took part in the user test and filled out an evaluation form to learn about their emotional changes before, during, and after the test.



Figure 4.5 User test with young people

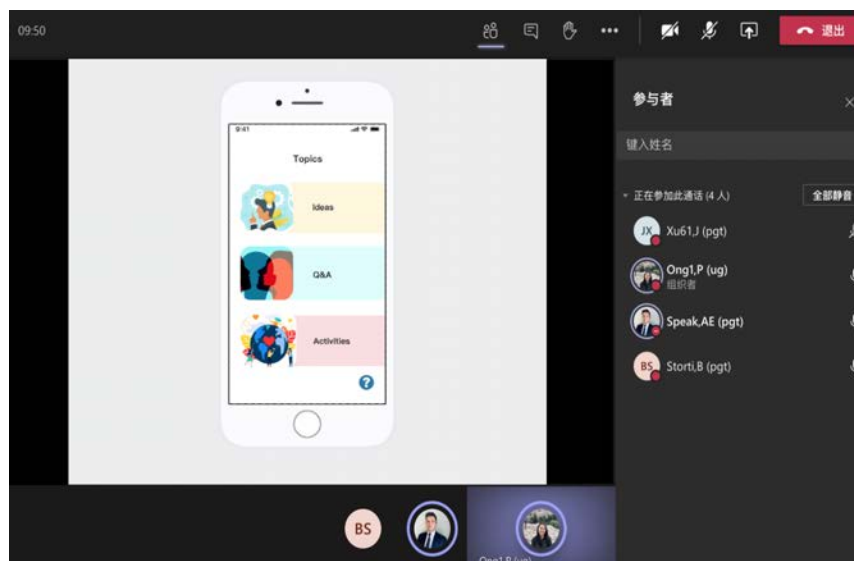


Figure 4.6 User test with the elderly

## 4.4. Result and Analysis

Following the user test, the author conducted one-on-one interviews with participants to better understand their emotional and psychological changes before and after the experience, as well as to evaluate the role of the iShare concept in facilitating intergenerational knowledge sharing.

### 4.4.1 Evaluation Sheet

*Please rate on a scale of 0-5. ☆=1*

User Test	Status	Benefits*	Reciprocity**	Social Engagement***	Functionality Satisfaction	Comments
Elderly User 1	Before	☆☆	☆	☆☆☆	---	"Energetic young people. I was surprised that they were quite interested in my life stories. I didn't expect to review seriously my life in such way."
	After	☆☆☆☆☆	☆☆☆☆	☆☆☆☆☆	☆☆☆☆☆	
Elderly User 2	Before	☆☆	☆	☆☆	---	"I felt it would be too difficult and never tried. However, iShare gave me the chance to showcase myself."
	After	☆☆☆☆☆	☆☆☆☆☆	☆☆☆☆☆	☆☆☆☆	
Elderly User 3	Before	☆☆☆	☆☆	☆☆	---	"I still have time to figure out what I want to accomplish with my life and make new experiences. Age is just a number."
	After	☆☆☆☆☆	☆☆☆☆	☆☆☆☆☆	☆☆☆☆☆	
Young User 1	Before	☆	☆	☆☆☆	---	"I start to understand my grandparents somehow. I used to think the elderly were outdated for many things. But now I realized that I am wrong."
	After	☆☆☆☆	☆☆☆☆☆	☆☆☆☆	☆☆☆☆☆	
Young User 2	Before	☆	☆☆	☆☆	---	"The old are experienced and there must be something that we can learn from them. No more fear of aging, because I know I can live a wonderful life even in my old age."
	After	☆☆☆☆	☆☆☆☆☆	☆☆☆☆	☆☆☆☆	
Young User 3	Before	☆☆	☆☆	☆	---	"It is a good way to expand my networks and it is cool to have such deep meaningful intergenerational conversations that I hardly had before. I am happy and willing to offer help anytime."
	After	☆☆☆☆☆	☆☆☆☆☆	☆☆☆☆☆	☆☆☆☆	

\*Benefits: deepen mutual understanding, build self-confidence, expand networks  
 \*\*Reciprocity: knowledge transfer, learn new knowledges and skills, feel loved and respected  
 \*\*\*Social engagement: improve social connectedness, develop intimacy and trust, a sense of belonging, feel happy

Figure 4.7 User test results: evaluation sheet

Based on literature review, evaluation sheet was created to assess the effect of iShare on benefit, reciprocity, and social engagement. Participants were asked to rate their feelings and emotional changes on a scale of 0-5 (Figure 4.7).

Benefit refers to the immediate beneficial consequences that intergenerational knowledge sharing may have. After experiencing iShare, there was a significant improvement in both old and young participants. An explanation follows that having the chance of deep intergenerational interaction and knowledge exchange satisfies and benefits both parties. The senior gained pleasure from his contributions to the community as well as a better knowledge of the younger generation, while young generation gained confidence in the face of aging and were encouraged to follow their dreams with determination. Additionally, several young users said that the concept aids in network expansion. Both



generations believed that they gained a sense of love and respect as a result of their interactions.

Reciprocity also enables people to accomplish tasks that they would not be able to do on their own. By working together or exchanging services, people may achieve more than they could on their own. Likewise, after experiencing iShare, both old and young individuals had shown a significant improvement. Young participants explained that they were discussing values-related issues and offered novel perspectives on a variety of often discussed themes. On the other side, the elderly expressed his delight at not falling behind. He said that he was still stimulated by fresh ideas and by experiencing opinion collisions. The phrase Stay open-minded was mentioned most. Clearly, knowledge transfer occurred and both parties achieved enhanced knowledge and skills via iShare.

Social engagement is associated with a sense of belonging. It is the feeling of being part of a social relationship or network. It is believed that a feeling of social connectedness makes individuals feel included and engaged. Significant improvements occurred in both the old and young groups after experiencing iShare. That is, they developed intimacy and trust throughout the intergenerational sharing process, which would greatly facilitate meaningful and healthy intergenerational relationships both inside and outside of family contexts. One young participant said that he was more confident in dealing with relationship with grandparents. Moreover, the elderly said that he felt needed when his practical expertise aided young people and was motivated to proactively engage in more social activities, building new connections with others. In addition, feeling happy is a more direct visual manifestation of social engagement. It is demonstrated by the situation that all participants expressed their happiness after experiencing iShare.

In terms of functionality satisfaction of iShare, participants expressed general satisfaction with the services offered by iShare to ensure a successful intergenerational experience.

#### **4.4.2 Interview Result**

First of all, both old and young participants indicated that using iShare opened up a new world for them, letting them realize that they had numerous experiences about life, work, and learning that they can share with each other, and that the answers of others motivated them to look at problems in new ways. They can learn new things and gain new perspectives from one another. The elderly can draw on their extensive experience, while the young can contribute new ideas. They believe they have become more motivated to share and communicate, as well as more optimistic about the once-

insurmountable generation gap. Some of the interview transcripts of the participants who showed high motivation to engage in the intergenerational knowledge sharing activity are as follows:

### Question 1

- How do you think your willingness and motivation regarding intergenerational knowledge sharing has changed after using iShare?

*“I enjoy watching short videos to stay informed. Many old people, I’ve noticed, are sharing their work and lives on these so-called young people’s medium, encouraging young people with their own experiences. Although I considered joining them at the time, I felt it would be too difficult and never tried. However, iShare gave me the chance to showcase myself, and I was convinced that young people would be impressed that time, because I once had a very unique life experience in which I studied abroad in the past century and it was an adventure full of challenges. When I saw the young people’s reactions to me and their curiosity about me, I was motivated to lend a helping hand to their development. I’m also surprised because I haven’t had a strong desire to communicate for quite a long time. iShare convinces me that one plus one is greater than two because of the synergy effect brought about by intergenerational communication.” [Elderly user]*

*“There had never been an opportunity or a specific channel to speak with experienced persons in the same area in a more casual manner before. iShare has created a channel to connect the two sides. I’ll be eager to learn from and be inspired by the seniors here.” [User 1]*

*“Prior to experiencing iShare, I felt that if I had any doubts, the first thing that came to mind was to seek advice from others of the same generation, because I assumed we spoke a more common language and their opinions were more in keeping with the present status quo. I had never considered approaching the elderly for assistance since I believe it would be tough to communicate due to the generation difference. However, after using iShare, I realized that they were more refreshing and real than I had imagined. I’d like to learn more about his story. To respond to him, I shall not be stingy with my praise and admiration on his post. I’m hoping to reverse the usual tendency of the elderly to have a low self-esteem.” [User 2]*

*“I’d love to hear more of your wisdom or advice on how to live life better or to the fullest.” [User 3]*

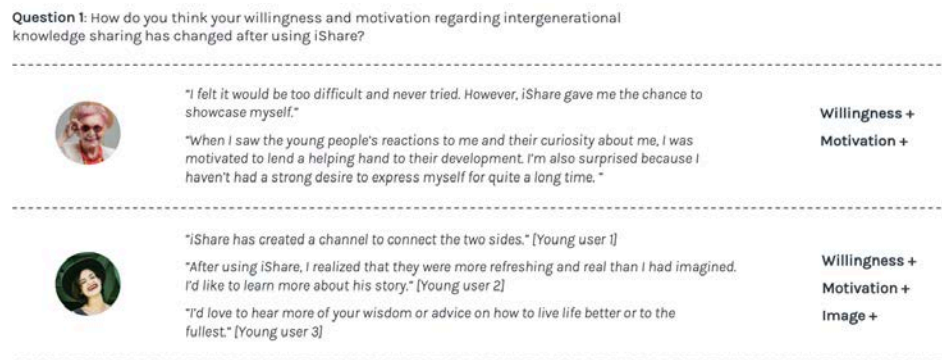


Figure 4.8 Interview results: Question 1

## Question 2

- Do you think you have generated new ideas or learned new knowledge in the process of intergenerational knowledge sharing?

*"Sure. The young people's queries and responses give me a sense of vitality, and I was impressed by their curiosity towards new things. In the past, I would unconsciously dismiss current technology, even though they may help me experience the conveniences of modernisation. I understand how crucial it is to keep an open mind. I still have time to figure out what I want to accomplish with my life and make new experiences. Age is just a number." [Elderly user]*

*"In fact, we can find a lot of knowledge in the course or online, but the attitude adjustment when the elderly shared that they were unable to create results in scientific study and saw little hope had inspired me and allowed me to reconcile with myself. I was too focused on the present issues and lacked a long-term perspective. His achievement really inspired me. In truth, this is something that only those who have experienced it can tell you, and it is also something that will not be taught in the course." [User 1]*

*"Whether you believe it or not, I seemed to have perfected the art of conversing with the elderly. It is communication on an equal basis, not communication based on caring." [User 3]*

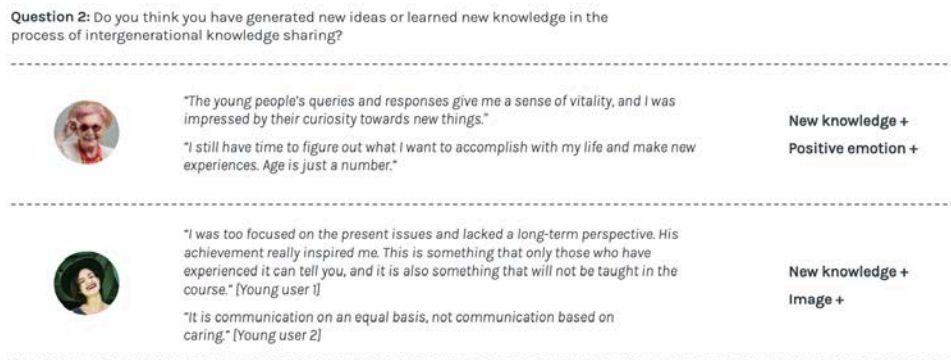


Figure 4.9 Interview results: Question 2

Furthermore, in reaction to the emotional changes, the interviews indicated that, in comparison to prior feelings, younger and older individuals now have a new understanding of each other. Young individuals engage with older people in ways that increase their trust and reliance in them. Meanwhile, the iShare idea may help elderly people with social connectedness and intergenerational communication. Indeed, elder individuals must share their knowledge and experiences. Intergenerational communication will be more challenging if individuals are isolated from one another due to their age.

### Question 3

- How do you feel your emotions have changed after using iShare?

*"Seeing young people's questions and responses, my overall impression is that young people today are more determined than ever before. They know what they want and are ready to put in the effort to get it. iShare not only enables me to share my experience with young people, which gives me a feeling of purpose, but it also reminds me of my challenges and amusing anecdotes from my youth. It's an interesting experience for me to see the younger generation who formerly endured the same hardships as I did, and I know I can give them help." [Elderly user]*

*"Typically, discussion with grandparents is limited to the following themes: 'What did you eat?', 'What have you done recently?' and other life issues. I don't know what to say to my grandparents, despite the fact that I really want to talk with them. I was able to learn about things that older people are interested in thanks to iShare. Although seniors often perceive that young people today do not want to communicate with them, we actually do not know what we should say. iShare*

*showed me the issues that older people are interested in, and maybe the next time I meet my grandparents, I'll want to discuss these topics with them.” [User 2]*

*“ After using iShare, I suddenly realized that the elderly were once youthful individuals like us. They have had so many different experiences. Even if I lived in the same age as them, I'd think he'd be an unreachable example for me. They have motivated me, and I wish to communicate with them more deeply.” [User 3]*

**Question 3:** How do you feel your emotions have changed after using iShare?

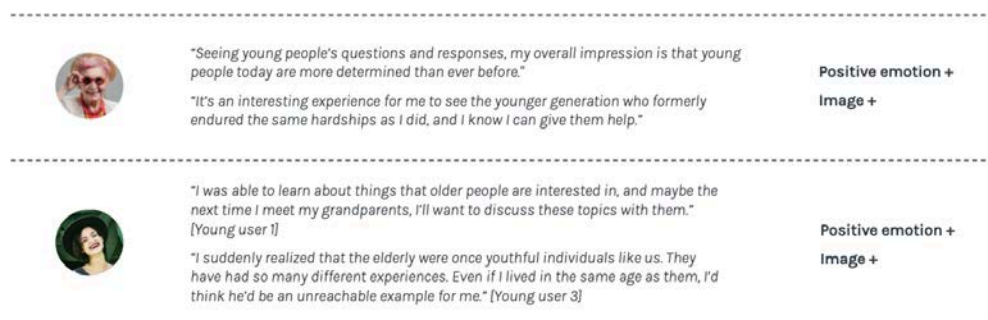


Figure 4.10 Interview results: Question 3

#### Question 4

- How do you define yourself: “ I would recommend iShare to others ” ? Please use Strongly Agree, Agree, Normal, Disagree and Strong Disagree to describe yourself.

*“ I would say Strongly Agree. My life goal today is to show young people how to look at and live their golden years in a healthy way.” [Elderly user 1]*

*“ Agree. I'm sure my old friends will be interested if they know I'm using this app.” [Elderly user 2]*

*“ Strongly Agree. Amazing concept. Technical challenges won't be an insurmountable problem. The only problem is motivation.” [Elderly user 3]*

*“ Strongly Agree. Particularly for us medical students, it is a rare opportunity to communicate with and learn from such an experienced retired professional.” [User 1]*

“Agree. It would, in my opinion, help more young people understand the elderly and enhance family relationships. Many people, I believe, wish they could have heard this from their grandparents.” [User 2]

“Normal. I like the concept but I feel like I will not use it frequently. I will consider it as an additional channel for information and relief.” [User 3]

Please rate on a scale of 0-5, ☆=1

User Test	Would you like to recommend iShare to others?	Attitude
Elderly User 1	☆☆☆☆☆	Strongly Agree
Elderly User 2	☆☆☆☆	Agree
Elderly User 3	☆☆☆☆☆	Strongly Agree
Young User 1	☆☆☆☆☆	Strongly Agree
Young User 2	☆☆☆☆	Agree
Young User 3	☆☆☆	Normal

Figure 4.11 Question 4: Willingness to recommend

## 4.5. Further Analysis

The author discovered from the interviews that iShare functions as a method for understanding the values and life experiences of older people, which may lead to an increase in the presence of older people in their local communities.

The results of the user showed an important that iShare offers chances for intergenerational engagement, reminiscence, reciprocal learning, and even co-creation of content, revealing that older adults might be strongly motivated to utilize technology when social contact is a primary goal.

iShare, via technology, enables older adults to connect with a broader social circle than just family members. These technologies may be more instantly available to a broader range of older adults, since they need just a mobile phone and an internet connection, rather than the specialized hardware and software required for the applications. Furthermore, interviews show that when the elderly encounter technological difficulties, they are more likely to seek assistance from their children, which allows intergenerational knowledge sharing and builds mutual trust.

As shown in the interviews, intergenerational contact occurred seldom in the participants' everyday lives. According to one explanation in the literature, the breakdown

of traditional family structures and increased geographical mobility have increased the likelihood of older people living apart from family and friends and thus being more socially isolated than ever before [43], with opportunities for experience sharing across generations diminishing. In older adults, social isolation has been linked to decreased psychological well-being and functional health [44]. iShare helps to facilitate intergenerational interactions and create an environment conducive to intergenerational knowledge sharing. It is reasonable to believe that iShare will have a long-term beneficial influence on the health of the elderly.

Old people's continued participation with the intergenerational community seems to have been mostly motivated by the sharing of their life stories. When it comes to the elderly, there is a chance provided by iShare that would not have presented itself in the midst of the routine issues of daily family life. People sharing their lives with others is remembrance that occurs naturally in the context of developing interpersonal connections and participation with a supportive community of people, rather than as a consequence of therapeutic intervention, which is the main purpose of life review.

Moreover, the young people's appreciation of the older people's experiences may be an indication that young people recognize the importance of other people's life phases in connection to their own life stages. When the elderly get reflections on their life narrative, they are also recipients of reciprocal learning in this intergenerational environment, while young people benefit from the passing on of knowledge gained over a lifetime of experience. More than that, by enabling the elderly to share their life tales, it offers them with a chance to fulfill or resolve their previous life ambitions, which in turn helps them to reduce their feelings of regret.

A further observation made by the author was that many initiatives at universal access have focused on the how of utilizing technology rather than the why of doing so. Although usability continues to be a critical consideration, it is not a sufficient requirement in and of itself to assure acceptance and long-term adoption of technologies. Understanding the reasons why technology becomes significant in the social context of older people's lives is essential if we are to grasp this phenomenon [45].

Intergenerational knowledge sharing is critical to the advancement of society, and this study has shown that both the elderly and the young have a strong desire to connect with one another. This is why iShare should be implemented in order to facilitate this process. iShare provides the elderly with a social setting in which to perform this introspection and to consider what his or her life may have meant to others. It gives them, in particular, the chance to engage with the younger generation in a safe and mutually supporting environment.

## 4.6. Summary

Kano model analysis was used to determine how well the proposed features of iShare meet the demands of target users and how much each suggested function is valued by target users. Following that, user testing was conducted to understand their real feelings while engaging with iShare. According to the assessment results, the three critical aspects that contribute to a successful intergenerational knowledge sharing experience are as follows.

- **Co-creation between generations.** iShare makes up for missing chances for great intergenerational relationships. The research demonstrates that young people seek to talk to the elderly about certain issues, either replying to the content they shared or requesting/suggesting new topics. Thus, the sharing material on iShare is a result of constant collaboration and co-creation with young generation. Seniors not only make use of their accumulated knowledge and abilities, but also conduct a natural life review via the co-creation process. Proposed features such as an online community, prescribing people to people, and customized themes all facilitate co-creation and life review, resulting in an increased willingness to share knowledge on the sharing side and intergenerational learning on the receiving side.
- **Lifelong learning strategy.** The generational divide is the most often discussed issue in intergenerational interaction. However, the expressive and absorptive abilities of both parties, as well as their knowledge gap, all have a significant role in determining the success of intergenerational interaction. iShare offers online community services and direct feedback and comments to users to help bridge any expressive gaps that may exist in intergenerational encounters, so that both parties may learn and adapt to the other party's preferred communication style. Moreover, after retirement, seniors' professional knowledge and experience may become obsolete, thus current news and trends assist the elderly stay informed and continue learning. However, for the young, they should also be cautious of any knowledge gaps and learn to disentangle useful information from shared knowledge by referring to several information sources. All of these activities on iShare serve as a foundation for lifelong learning and create an environment for deep conversations.
- **Mutual supportive communication environment.** Intergenerational knowledge sharing activities on iShare are a two-way process rather than a top-down



approach in which older generations educate younger generations, and they take place in a more casual manner in which individuals feel comfortable opening their hearts. Seniors' technophobia may be overcome by age-friendly user experience design and complete digital knowledge assistance. By engaging with young people, elderly adults may become strongly motivated to utilize technology for the sake of social engagement. Despite the fact that the quantity of intergenerational interactions is critical, the quality of each interaction is far more so. iShare offers QA, sharing and a variety of activities that promote high quality interactions and the building of trust-based intergenerational relationships. By taking into account the whole depth of elders' experience, iShare recognizes their full potential as family and community members, therefore contributing to a supportive intergenerational communication environment.

# Chapter 5

## Conclusion

### 5.1. Summary

In addition to the inevitable physical and cognitive deterioration that occurs in the person who is aging and may need care, aging is characterized by the continual need for meaningful social relationships as well as personal introspection on the meaning of one's existence in relation to others [45]. It is believed that providing access to chances for intergenerational communication is an important means of fostering social engagement. As a result, in this study, the author proposed the iShare concept, which focuses on the issue of active aging and emphasizes engagement, and evaluated its effect on facilitating intergenerational knowledge sharing of accumulated knowledge, skills, and interests among people of different generations.

First of all, it has been demonstrated that iShare is beneficial when used as a bridge to link young people with older individuals who have retired from their professional lives by providing possibilities for intergenerational knowledge exchange. In order to design technologies that would empower older people, it is important to take into account the complete breadth of their experience while also appreciating the full potential of older people in their roles as family and community members. iShare allows intergenerational contact and knowledge sharing to take place in a more casual manner than other intergenerational programs, which are often offline collaborative projects. Also, the co-creation experience on iShare motivates both parties to continue actively engaging in intergenerational interaction.

Secondly, new abilities and knowledge were developed as a result of intergenerational knowledge exchange via the iShare platform. There is knowledge to be shared and both parties may benefit from one another, which is a necessity for high-quality interaction and a basis for lifelong learning. The quantity of intergenerational encounters with others is vital for social engagement, but the quality of each connection is even more significant. Intergenerational knowledge sharing has the potential to promote more high-quality communication to a certain level and iShare assists in a way providing them with

an opportunity to interact with the younger generation in a safe and mutually supportive way.

Furthermore, this research took into consideration emotional changes including perception, attitude, and spiritual needs, etc. that iShare has brought about, and it was found that intergenerational knowledge-sharing behavior on iShare generated a positive attitude: the old felt engaged and valued, while the young felt encouraged and inspired. In particular, for young individuals, interaction with the elderly might result in an increase in self-esteem, which corresponds to the importance placed on one's own self image at this age. Because of their contributions to the community, seniors feel fulfilled and engaged, and they get a deeper understanding of the younger generation. Seniors' reorientation toward the younger generation has a cultural and spiritual component that goes beyond self-interest [45]. Gerotranscendence is the term used to explain this altruistic shift that occurs in later life.

When designing for the elderly, iShare's distinctiveness is that it focuses on the why of utilizing technology rather than the how, and that it begins by considering how technology becomes embedded inside the social and emotional lives of older people. A concentration on a care-based conception of aging, with physical and cognitive deficits as the starting point for technological solutions, may cause us to overlook complementing possibilities to utilize the same networks and infrastructures to assist other crucial parts of daily life experience [45].

To summarize, iShare makes up the opportunities for missing intergenerational interaction in daily life and enables older adults to have opportunities to connect with a broader social circle than just family members via technology. People over the age of 65 have a respectable level of technical literacy to begin with today. Older people want to do real things, that is, activities that are meaningful to them on a social and spiritual level. When there is a clear social advantage to doing so, it is easier to accept the inherent technological obstacles and the need to acquire new skills that come with it. Being older does not prohibit the potential to learn about new things; nevertheless, social isolation does preclude the chance to learn.

## 5.2. Future Work

While the impact of iShare cannot be extrapolated to the whole older population, it may be used to demonstrate the potential of this form of social apps for facilitating intergenerational communication among older people. However, several issues come up

and still need further discussion.

To begin, the service that iShare provides, whether free or paid, will have a significant impact on both parties' motivation, willingness, and even responsibility to continue using, resulting in either an enhanced or diminished impact on the healthy intergenerational relationships that iShare initially expected. However, this study ignores this critical element.

Second, knowledge happens inside a context, which individuals understand and value in light of their past experiences and background. Thus, knowledge may not be effectively or completely disseminated between generations via online, especially when it comes to certain deeply held views, which need a gradual acceptance and conversion process. Additionally, the efficiency of a knowledge sharing strategy is tied to the attitudes of the participants. For instance, chances are good that such scenarios may take place: young people may be unwilling to communicate despite their desire to get expertise and knowledge as a result of older people's obstinacy. Additional analysis on the mechanism of intergenerational knowledge transfer as well as the authority of sharing content is required.

Finally, placing an excessive emphasis on designing for the elderly may stifle product potentials. Another emerging issue is how technology may both alleviate and exacerbate loneliness in older life. Constant access to technology, particularly smartphones, might suffocate people's ability to form genuine bonds. For many people, reaching for a smartphone whenever they have a spare minute has become a habit, and this behavior may be exacerbating loneliness. How to find and keep the delicate balance is critical.

In the future, the iShare idea may form a relationship with local communities in order to involve more senior people in activities and to arrange additional events in collaboration with them. It may also be included into school programs as a supplement to already existing intergenerational learning programs, as described above.

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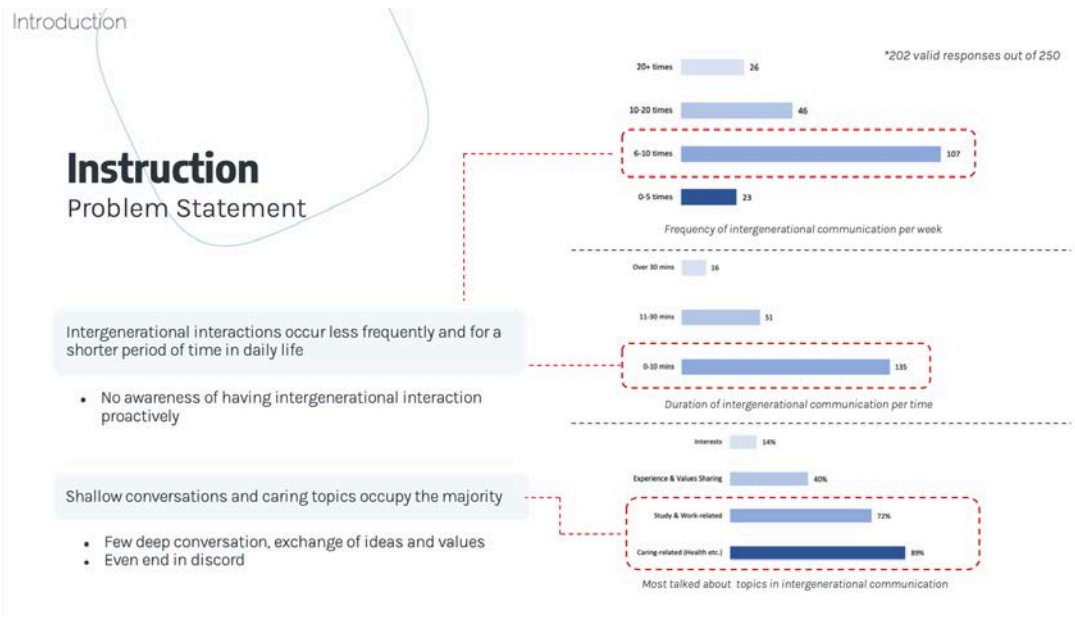
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# Appendices

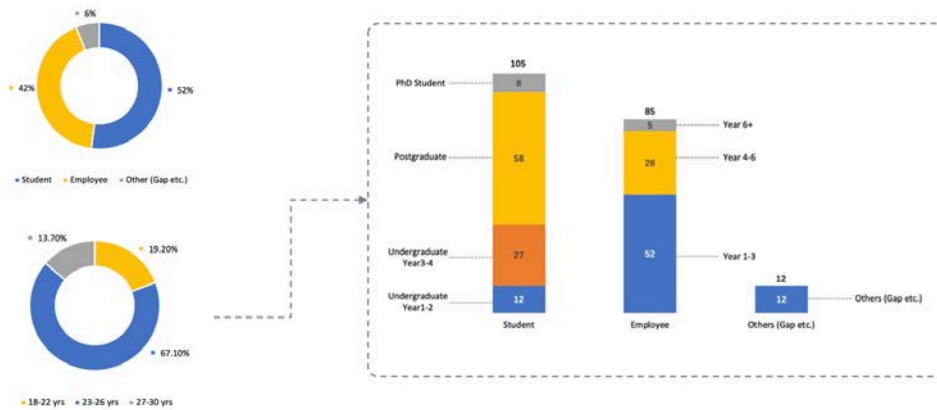
## A. Survey Result



Design-Survey

**Surveys were distributed to the target population of 18-30 years old, of which 202 valid responses were collected**

Demographics from survey results

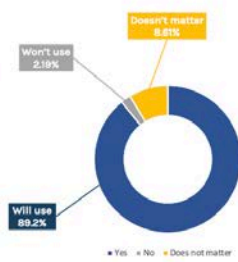


Design-Survey

**The Young generation is willing to participate in the intergenerational knowledge sharing**

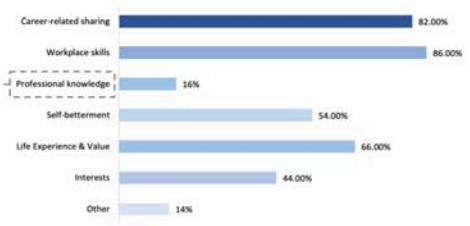
Influenced by social situation or accidental factors, the experience is no longer applicable to the present. For the technology-oriented industry, old technologies are constantly being eliminated.

"They have rich practical experience and their unique views on many issues can help deepen the understanding of the industry."  
"I can get inspirations from their experience and plan my career path more efficiently, avoid detours."



After reading the introduction and using scenarios, how many users are willing to use this service?

More willing to search online  
Referring to the literature is the fastest way to get the latest information  
But are good to know practical knowledge



Career, workplace skills and life experience & value are the top 3 areas that the young generation wants to know more about