Exploring Social Communication Culture of Indonesian Senior Immigrants

by

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Abstract

The ability to communicate with others is vital for a person's emotional health and wellbeing. This project examined, through literature review and semi-structured interviews, the needs and constraints of senior Indonesian immigrants living in Toronto and the GTA for social communication. Findings revealed that they experience a high degree of social isolation due to following barriers: unfamiliarity with the English language, low educational levels, sub-optimal financial status and lack of technology skills. The need to design a simple, technology-based communication game for them was identified. Using an inclusive design approach, a Persona for an "extreme user" (lonely, widowed Indonesian senior) and related Social Life Experience Journey Map were developed. Through user testing sessions, a paper prototype of initial design for an iPad-based game was explored. Based on the feedback, an electronic prototype design of a refined word-building game was created. Although designed for seniors, this game can be played by all ages.

Acknowledgments

I am using this opportunity to express my gratitude to everyone who supported me throughout the course of this MRP project. I am thankful for their aspiring guidance, invaluably constructive criticism and friendly advice during the project work. I am sincerely grateful to them for sharing their truthful and illuminating views on a number of issues related to the project.

I express my warm thanks to Job Rutgers, Sambhavi Chandrashekar, Peter Coppin from OCAD University and William Gani from Wisma Mega Indah and others for their support and guidance.

Thank you!

Arief Yulianto

Dedication

To my wife Christina and my son Felix

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1   Introduction

In Toronto and the GTA, the Indonesian Immigrant population is considered a minority compared to other Asian ethnic populations. According to the 2006 Canadian census[1] most Indonesian immigrants that arrived before 1976 have poor educational backgrounds and a lack of English language proficiency (Ng, Lai & Rudner, 2012).

These Indonesian Immigrants are now senior citizens. Due to the aforementioned lack of proficiency in the English language, poor educational background and inability to do essential activities properly, such as inability to communicate, reduced hearing, seeing, communicating, walking, climbing stairs, bending, learning or doing any similar activities at home, at school or at work, they may experience psychological distress and a prevalence of mood, anxiety, and other disorders[1] while living in Toronto (Ng, Lai & Rudner, 2012).

Furthermore, as most seniors did not grow up in the digital age, they are likely to be unfamiliar with technology (McMurtrey & Downey, 2011). Nowadays, fluency in using technology has become a very important skill in establishing communication in a social context, and it is the best way to directly communicate remotely with family members across the world. In order to 'survive socially' (Ng, Lai & Rudner, 2012), Indonesian Immigrant seniors must overcome these communication challenges.

2   Methods

2.1 Literature Review

The first phase of this project was to collect and build a comprehensive literature review about loneliness as a specific issue within the context of senior immigrant citizens living in Canada. The findings and implications informed the qualitative research phase. Rather than being presented as a separate section, these findings are being brought in contextually in the discussion of the user-centered qualitative research that is presented in the rest of this report. This approach provides an integrative picture to the readers and would help them in comprehending the primary purpose of the MRP design research exercise better.

2.2 Qualitative Research

Using semi-structured interviews and ethnographic observation methods, the project explored participants' everyday communication experiences in order to assess the social needs of senior Indonesian immigrants and identify opportunities for design. Eight senior Indonesian immigrants aged 50 years and above living in Toronto and the GTA were recruited from active Indonesian communities, clubs and Indonesian senior housing facilities located within Toronto and the GTA.

Indonesians who immigrated in the 1960's, 1970's and 1980's were included in order to have some representation from each decade. These categories represent the particular periods of Indonesian migrations to Canada and helped the researcher understand the changing social demographics. However, due to the small numbers, data collected were not sufficient for deriving any generalized design criteria that differentiated these groups.

The semi-structured interview method was chosen due to its flexibility to adapt to different situational backgrounds and to help the researcher in gathering relevant information in order to identify specific challenges faced by them since their arrival into Canada regarding language barriers and adaptation to a new culture. Interviews were audio-recorded after obtaining permission from the participants. The interview protocol is given in Appendix A.

2.3 Synthesis and Design

Synthesizing the insights gathered from literature review and interviews into a design brief, the project aims to develop a technology-based tool that could help bridge some of the identified socio-cultural communication barriers to improve the quality of life and emotional health of senior Indonesian immigrants.
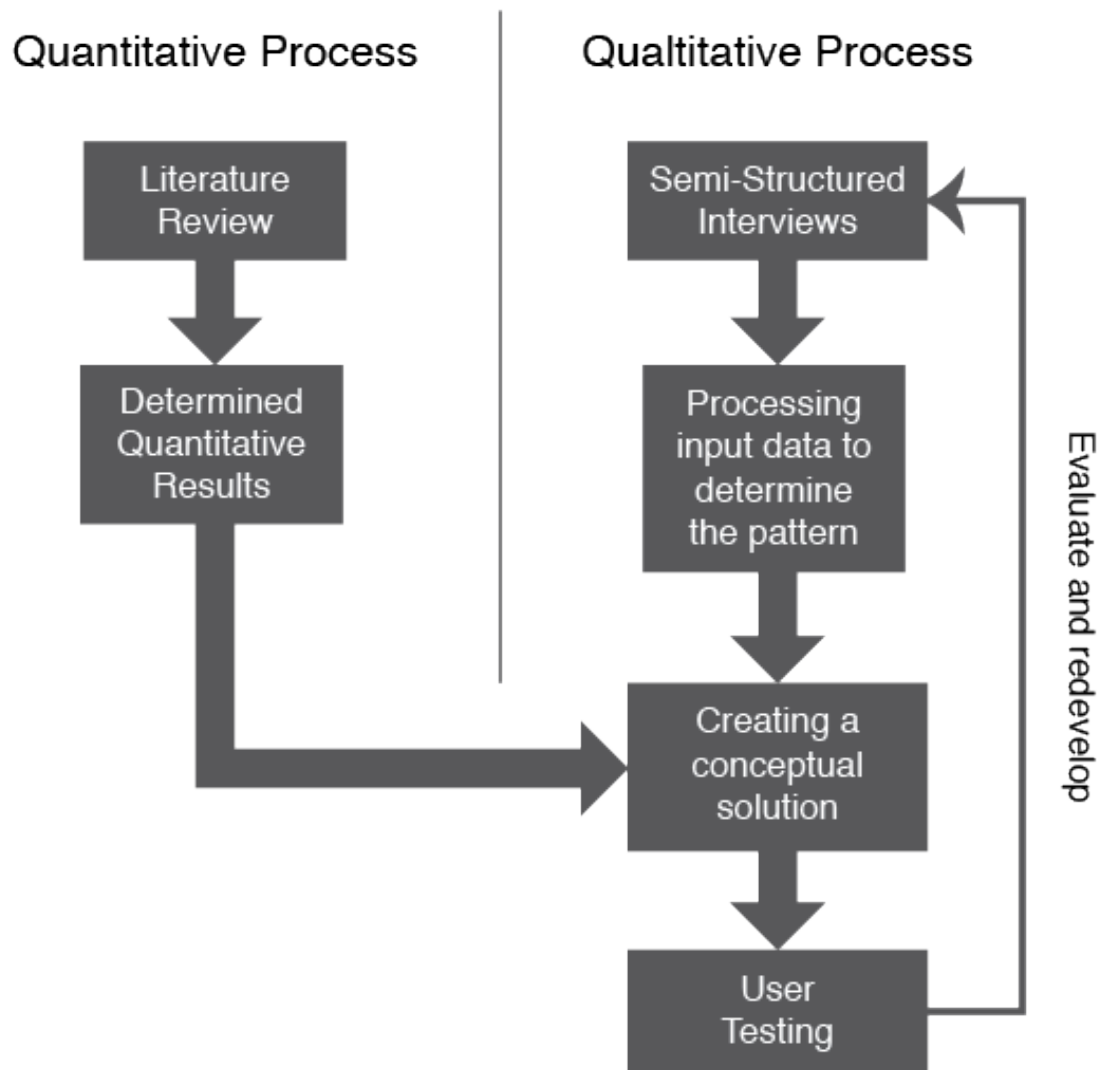
Figure 1: Synthesis and design process

3 Interview Process

3.1 Determining Candidates

In order to obtain good quality data, the recruitment criteria for candidates were defined as: an Indonesian immigrant, at least 50 years old, and having resided for at least 20 years in Toronto or the GTA in Canada. The selection of candidates was done in random to include married couples, widows, widowers and single with various backgrounds. Some of them were staying at a retirement residence and some were staying in their own house in and around Toronto and the GTA.

3.2 Interview Process

The interview process used a semi-structured interview guide as given in Appendix A in order to provide flexibility to probe into the different backgrounds that candidates had. Eight persons were interviewed. Each interviewee was asked about their social experience starting from when they landed at Toronto until the present time. When interviewing face-to-face, the researcher also observed their expressions and their reactions while answering the questions to understand their emotional state when they were talking. By being empathic, the researcher was able to infer more implicit information from the answers given by participants.

Some participants mentioned that they have a poor educational background and they have poor English language proficiency. One of them told that they were able to speak only basic English and when they travelled around they had to depend on other Indonesians for help with communication. This indicates that these participants arrived without proper preparation to live in Canada and could be considered as an early sign of social isolation.

The researcher noticed different responses depending on whether the participant was with their spouse or alone. Participants who were single widowed tended to be more expressive in their outlook than married couples. They were more open with regard to sharing social information compared with married couples. Based on the researcher's observation, married couples did not express as much social isolation as those without partners.

When participants were asked about communication technology, there were varied reactions and answers from them. Some of them preferred not to have any interaction with any technological devices because they felt those devices were 'too smart' for them. They seemed fairly out of touch with current trends in communication technology. The researcher noted that this was mostly related to participants with poor educational background.

One participant gave an interesting answer about her outdated mini tablet that was given by her grandson. She mentioned that she loved to use the mini tablet called Kobo eReader, because it was very useful. Her

grandson, who often visited her, would load new books for her to read. She said that it was easy to use the device by just pressing the buttons at the bottom. She often read books using it while resting or when unable to sleep at midnight.

Most of the participants mentioned that they would be interested to use technological devices but unfortunately they had no chance to use them. That answer provided a hint to the researcher that Indonesian seniors might enjoy communication devices if a way could be found to customize it based on their needs and their existing skills to take benefit from technology.

Another fact that the researcher noted from the interviews was that participants having poor educational background expressed more difficulty in using technological devices compared to participants having good educational background. This added to the insight that communication devices need to be simple and easy to use in terms of interaction, possibly with a dedicated interface for this sociocultural community.

In an earlier research the researcher had conducted for a class project, it was found that older adults in general are curious about new technology and want to engage with it (Pokinko et al 2013).[1] This made the researcher conclude that even though senior Indonesian immigrants had not used

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[1] Pokinko, Tomasz, Hong Zou, Rami Omran, Arief Yulianto, Geordie Graham, Yijin Jiang (2013). Research with Older Adults for Journey Map Interface for Older Adults with Age-Related Cognitive Decline. Assignment for INCD 6C01. OCAD University (unpublished).

technology devices earlier, intuitive touch-screen mobile devices such as iPad might be easy for them to use. If a communication game was designed on iPad, that could be customized based on their needs and skill levels, they could derive benefit from technology and, at the same time, manage their social isolation.

In the next section, the creation of a persona based on the data collected and the development of a Social Life Experience Journey Map (Grocki, 2014) are described.

4   Data Processing

Inclusive design is not about averages but about including those in the margins, the outliers. The purpose of this inclusive design exercise is to cater to the needs of a marginalized population of senior Indonesian immigrants. The term "extreme user" is commonly used in Inclusive Design to represent a user group that is most disadvantaged. They are called extreme because they feel the effects more powerfully than others (Brown & Wyatt, 2010).

By processing the data gathered, the profile of a senior widow living alone in Toronto and GTA was found to be a representative "extreme user" for the design. A persona with those characteristics was, therefore, created. Using that persona, a Social Life Experience Journey Map (Grocki, 2014) was developed reflecting the stages of their life from immigration till the current date. Details of the persona and the journey map are given below.

4.1   Developing Persona

The first activity in synthesizing the data was the creation of a Persona to represent an "extreme user" with unique needs. Creating a Persona is an important part of the Social Life Experience Journey Map method (Grocki, 2014).

In the early stage of development, the researcher reviewed overall demographic information of participants and summarized the similarities. The first step was deciding which background would be the best to represent the overall demographic of Indonesian Seniors that are staying in Toronto and the GTA. Based on the researcher's observations, a female senior was more representative than male senior. Based on their reactions when being interviewed, widowed female participants were expressing greater communication needs, and they were more inclined to answering questions rather than married couples. As already pointed out by Beal (2006), this situation showed that widowed female seniors are more vulnerable to be lonely rather than male seniors and most likely suitable as target group for a design solution.

Persona of Melanie

Figure 2: Female Persona Portrait

My name is Melanie. I'm a sixty five year old widow Indonesian Canadian. I have been staying in Toronto since 1975. I was a tailor

and my husband was a professional accountant. We went to Canada to find a better life than in our country of origin. A few years after our arrival in Canada, our children were born. When my husband passed away, I lived alone with my two children.

After my husband passed away, some of my Indonesian friends tried to offer some financial aid to support my family. They offered me a job that helped me earn enough to support us and I worked on the job till retirement. Now, my children are married and live separately from me in Toronto.

Currently, I'm living in a retirement residence that is owned by the Indonesian Community in Toronto. My children keep in touch with me by visiting me and I keep in touch with my family in Indonesia by mail or through the landline phone in my unit. Sometimes I wish I could use a computer or mobile phone to contact my family, but I cannot since I do not feel I am 'smart' enough to use them.

4.2 Social Life Experience Journey Map

Having earlier created the persona of Melanie, the researcher continued the design process by creating a scenario of social life that depicted the timeline based on what the created persona experienced, and analyzed it to identify needs and design opportunities. By processing the data, the researcher identified three phases in the life of a senior Indonesian immigrant: First arrival; Peak of social happiness; and Downhill situation. In each phase, the personal journey and conditions under which the journey

was undertaken were studied. For each phase, a timeline was identified and the communication process, behaviors or emotions, pain point, progression and what to expect during that timeline was noted. These categories helped the researcher to determine the social life situation of the persona. Each of the three phases are described below, together with a visual chart representation.

4.3   Phase 1: First Arrival

The scenario began at the moment when Melanie arrived in Canada with her husband. They met another Indonesian couple who lived in Toronto since several years. They were the first Indonesians that Melanie and her husband had contact with after arriving in Canada. This couple introduced them to Indonesian communities in Toronto and in the GTA. Initially they wanted to connect with communities other than Indonesian but, with limited English speaking skills, language barrier made it difficult for them to communicate. So they decided to stick with the Indonesian communities only since they spoke the same native language. Figure 3 illustrates details about this phase.

SOCIAL LIFE EXPERIENCE JOURNEY MAP

PHASE 1	First Arrival

| | **Timeline** | Just Arrived | Building Social Networks | Starting to settle down |

PERSONA JOURNEY

Communication Process

Indonesian Couple that just arrived at Toronto

since there is no language proficiency, they only could interact with Indonesian only

meet up face to face and assisted

Canadian Indonesia

Indonesian Communities in Toronto

Have been staying for long time at Toronto and connected with Indonesian communities in Toronto

Behavior and Emotion

Just arrived:
- Very happy and excited
- Feels like just won a big lottery
- Energetic
- Hoping for better future
- Relying on any Indonesian Community to help them

After few months:
- Worrying about current situations
- Hoping to get a good news
- Keeping in touch with family at Indonesia with mail every 2 weeks since calling phone is unaffordable at that moment
- Feeling happy and relieved after getting decent job

Difficulty Point

- Having limited funds to find a decent job and suitable housing
- Can't speak English fluently since never speak English and having poor language preparation
- Lack of decent education makes job hunting difficult
- Social networking pretty limited to Indonesian Community and having difficulty to adapt with local situation (such social culture and weather).
- In the end, social networking stucked and limited within Indonesian Communities only

CONDITIONS

Progression

- Making friends with Indonesian Community by attending events on weekends, meet face to face to introduce themself and starting to keep in touch to maintain friendship.
- Once good social relationship has been established, started to ask for more information to get a decent job with any education that earned before arrive.

What to expect

- Meet first friend in Toronto to assist them to find a suitable housing, decent job and social networking in the future
- Developing social network within Indonesian Communities in Toronto in order to get a more friends, job for better career.
- Starting to settle down with decent condition (decent job and suitable housing that close to Indonesian Community)
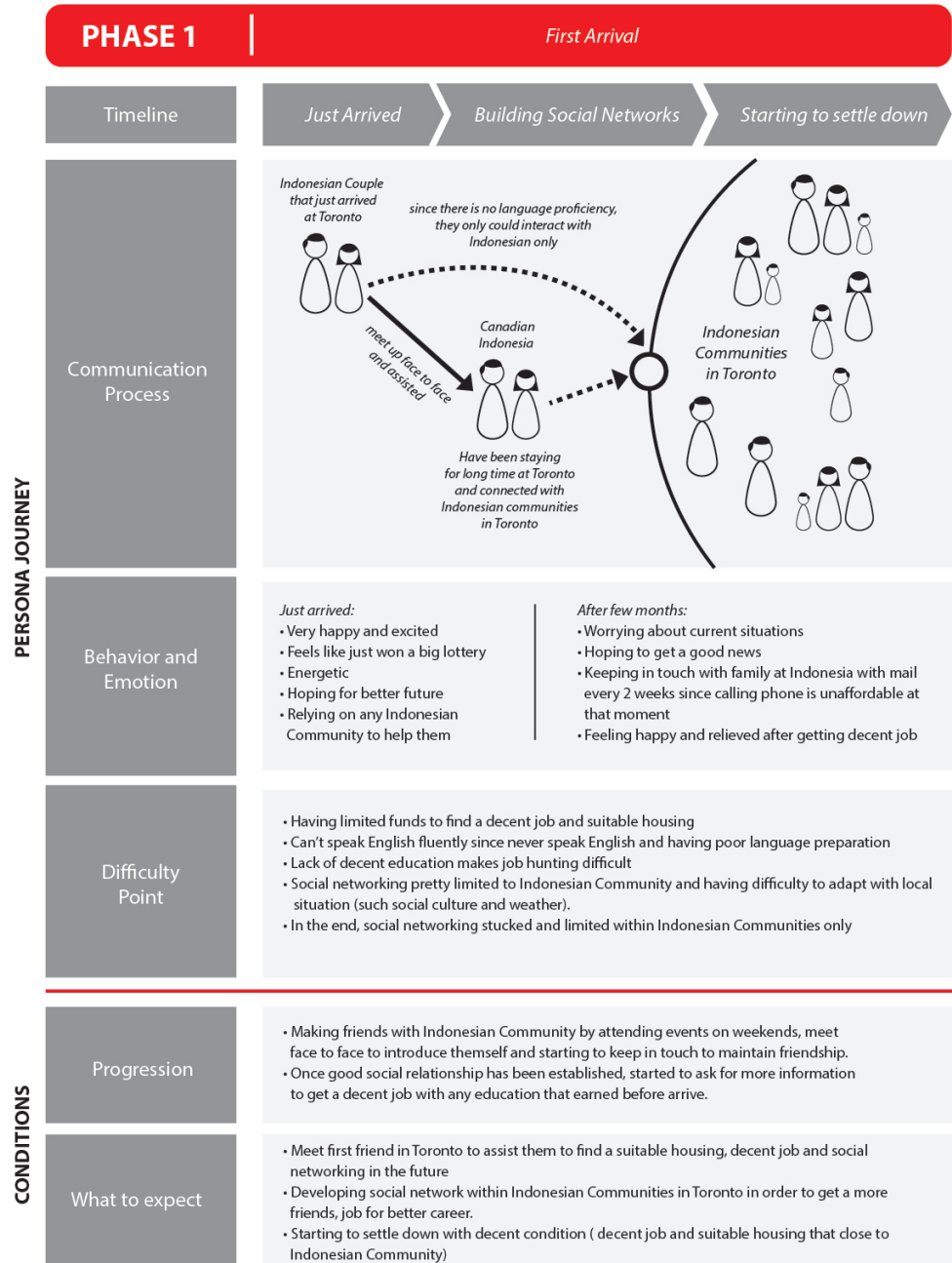
Figure 3: Phase 1 of Social Life Journey Map

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4.4   Phase 2: Peak of Social Happiness

During the second phase, they started their social journey in developing a social network and finding a decent job and proper housing. In a few months, Melanie's husband found a professional job, they had children and Melanie took to be a housewife in order to take care of their children. Day by day, their children grew up and matured; and they started to create their own social network. Eventually, their children married and decided to live separately due to job requirements and pursuing a career outside Toronto. In the beginning, Melanie and her husband were feeling happy because they had successfully raised their children. Figure 2 shows details about this phase.
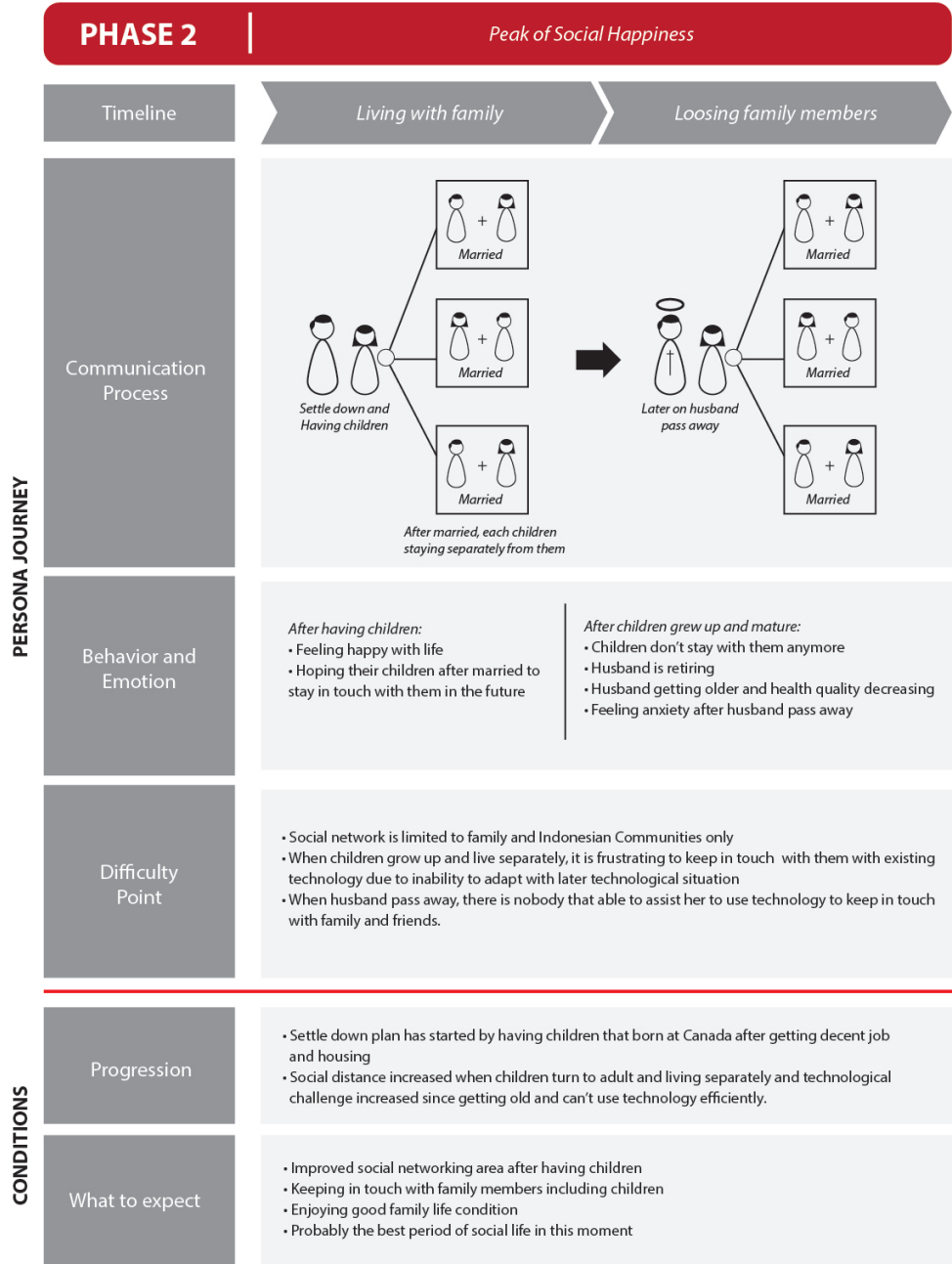
SOCIAL LIFE EXPERIENCE JOURNEY MAP

PHASE 2		Peak of Social Happiness	

Timeline	Living with family	Loosing family members

PERSONA JOURNEY

Communication Process	

Married
+
Married
+
Married
+

Settle down and Having children

After married, each children staying separately from them

Married
+
Married
+
Married
+

Later on husband pass away

Behavior and Emotion	

After having children:
• Feeling happy with life
• Hoping their children after married to stay in touch with them in the future

After children grew up and mature:
• Children don't stay with them anymore
• Husband is retiring
• Husband getting older and health quality decreasing
• Feeling anxiety after husband pass away

Difficulty Point	

• Social network is limited to family and Indonesian Communities only
• When children grow up and live separately, it is frustrating to keep in touch with them with existing technology due to inability to adapt with later technological situation
• When husband pass away, there is nobody that able to assist her to use technology to keep in touch with family and friends.

CONDITIONS

Progression	

• Settle down plan has started by having children that born at Canada after getting decent job and housing
• Social distance increased when children turn to adult and living separately and technological challenge increased since getting old and can't use technology efficiently.

What to expect	

• Improved social networking area after having children
• Keeping in touch with family members including children
• Enjoying good family life condition
• Probably the best period of social life in this moment

Figure 4: Phase 2: Peak of Social Happiness

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4.5 Phase 3: Downhill Situation

A few years after the children started living separately, Melanie's husband passed away and she felt very sad and depressed because of her loss. Nobody lived with her anymore. She felt lonely, grieving and there was an urgency to to rebuild her broken social networking.

In the end, she found that staying at retirement residence is the best option to take care herself and also she could regain her social networking again just like the times when she and her husband had just arrived in Canada. Figure 3 shows details about this phase.

SOCIAL LIFE EXPERIENCE JOURNEY MAP

PHASE 3	Downhill Situation

	Timeline	Living Alone	Enjoy Retiring Life
PERSONA JOURNEY	Communication Process	• Getting older • Staying alone • Lonely She decided to rebuild her social networking by staying at Indonesian Seniors and Retirement Communities	Indonesian Seniors and Retirement Communities in Toronto
	Behavior and Emotion	*After family members gone:* • Feels lonely • Frustrated because there is only few options to keep in touch with children and family member • Frustrated because of social connection in close family reduced by the time • In the end, decided to move to retirement residency for personal good.	
	Difficulty Point	• Nobody can stay with her after husband pass away. • Nobody can assist her to help if there is technological help needed. • Social network drastically shrinked especially in the family tree. • Social gap between her and her children even wider because children busy with their own life.	
CONDITIONS	Progression	• After loosing husband and children living away, social isolation increased and pushed her rethink about her current conditions. • In the end, she deciced to stay at retirement resident to get better social networking with Indonesian communities eventhough the network turn to be smaller and pretty limited.	
	What to expect	• Find a new social networking to maintain good social life • Keeping in touch with family members including children • Changing social life condition after husband and children are not staying together again	

Figure 5: Phase 3: Downhill Situation

5   Preliminary Results

Based on developed Persona and Social Life Experience Journey Map, it could be concluded that many Senior Indonesian Immigrant that are living in Toronto and the GTA created their own social network that is exclusively Indonesian. This fact implied that senior Indonesian Immigrants living in Toronto are limited in social interactions and do not tend to reach beyond their socio-cultural community.

An obvious indication was the lack of English language proficiency in order to be able to live properly in Canada. A poor educational background, and no English language proficiency had been recognized as an issue for Immigrants that came to Canada around 40 years ago (National Canadian Census 2006) and still exists as a challenge in senior Indonesian Immigrant community.

Another reason why they could not communicate with other communities was because they got used to repeatedly just communicating only with Indonesian community on a daily basis. These factors in the end affected their social life and made them vulnerable when they became seniors, especially when being widowed.

The Social Life Experience Journey map and data illustrates that many Indonesian Immigrants came to Canada without proper preparation in terms

of language and education. These conditions caused Indonesian Seniors to be socially isolated.

The situation got worse when seniors, housewives or households without a car were less mobile and experienced negative consequences of the spatial scale of the community spread around the city and the concentration of activities. This situation made them to be more vulnerable to social isolation (Hortulanus, 2005).

Nowadays, communication is made easy by technological devices that effectively connect people with one another regardless of the distance. Unfortunately, this fact becomes a challenge and also at the same time becomes a solution to reduce the social isolation for Indonesian Seniors. Based on observations, a poor education background also affects their chance to be involved more with technological devices. Many of the Indonesian immigrants felt they were not 'smart' enough to use technological devices because of their poor educational background.

6 Conceptual Design

6.1 Design Rationale

Based on the preliminary results, Indonesian Seniors living in Toronto and the GTA have difficulty in establishing communication outside of the Indonesian communities. Apparently this difficulty is triggered because of their inability to learn at least one language other than their own and also the inability to receive new cultural influences outside their culture of origin.

Another reason that this became an issue is because of their poor educational background that affected their chance to be involved with other existing local communities in Toronto and the GTA. Their poor educational background affected their skill to alter their culture of origin and adapt to existing cultures in Toronto and the GTA.

The existing conditions also affected their emotional health, their physical health and their life span (Hortulanus, 2005). These situations constitute Social Isolation (Hortulanus, 2005), where a person or community is unable to adapt to the social situation that exists where they live. In larger scale it could be called as Societal Isolation (Hortulanus, 2005), because it involves a large number of people and communities.

In the end, the issues are related with lack of self-confidence and poor social skills that related to individual capabilities to solve his or her social problem. Since it involved individual factors, he or she is the only one that is able to change his or her culture (Hortulanus, 2005). External factors provide influences, but still everything is related back to people's individual capabilities to solve these issues.

It is believed that every individual has problem solving skills in psychological perspective (Hortulanus, 2005). Having effective problem-solving skills for individuals is considered a solution to solve this kind of social issue.

There are many problem-solving methods to solve this issue, of which one would fit this case best. It is called the 'incubation method' (Davidson & Sternberg 2003). This method gives people a chance to receive new information and allows them to accept and learn about it, which later on will be incorporated into the solution of the problem. This method encourages motivation and increases creativity to solve the problem (in this case social isolation issue) without the need for any education. Hence, the researcher believed it would be suitable for this case.

Meanwhile, most of the Indonesian Seniors have poor education and that turns out to be a challenge for them to learn something new, something that they are not familiar with from before. However, the psychological problem-solving skill is always available in any individual being and

developed naturally (Hortulanus, 2005). In order to address the challenge that they are having now, the conceptual design must be based on what they were familiar with before and also require less learning effort to develop further.

In summary, the poor educational background of Indonesian Seniors poses a challenge for them to learn something new. Therefore, tapping on the natural problem-solving skills present inherently in them would be a good way to design a communication game for them, besides bringing in what they are familiar with and what requires less effort to learn.

6.2 Design criteria

Based on the preliminary results and the rationale discussed above, the solution must be a product that contains a problem-solving method that involves social interaction, is motivating, and encourages creativity of the person who is experiencing social isolation. This product would be able to provide emotional engagement by creating collaboration and cooperation between individuals to stimulate social interaction. Furthermore, it must be accessible for seniors since they are having a challenge to operate technological devices.

Since Indonesian seniors are not familiar with the social culture of people outside of the Indonesian community, they need a specific method to acquire exposure. The method should be practical, easy to do and take no

difficult requirement for them to execute. At the same time, the method just requires any problem-solving activity that everyone has, in order to improve social skills.

In the researcher's opinion, it is believed that everybody has played games in their life since childhood and that experience would never be forgotten even after aging. When somebody plays a game, they call upon their psychological problem-solving skills to solve the challenge that exists in the game itself. For example, when somebody is playing a simple puzzle game, the player should think about how to put the pieces in their correct positions. The player needs to use psychological problem-solving skills to try and fit the puzzle pieces into the frame and determine whether the positioning is correct or not.

The process of playing a game reflects the basic idea to involve Indonesian Seniors to rely on their psychological skills to solve the challenge in the game and at the same time work together with somebody by establishing a social communication with the other player to help them solve the challenge in the game.

There is a possibility to adopt an existing game pattern into the solution but since this product is targeted at Indonesian communities, it would be better to produce the final game in two languages (Indonesian and English, including translation function) and also have an adjustable visual

layout for seniors to make it accessible to both Senior Indonesians and others.

At the same time, the researcher proposes to bring back visual elements from past that Indonesian Seniors are familiar with commonly (retroactive concept). This visual concept will be suitable with any technological platform that exists today. The reason is because Indonesian Seniors showed less familiarity with current technological devices and they are only familiar with devices that existed when they were young (during the 60's to 80's) because they got used to operating those devices in the past. Some examples of objects that they are familiar with are classic telephone layout, classic Cathode Ray Tube television, classic radio etc. Based on the researcher's observations during the interviews, their answers indicated their high level of familiarity with those devices when they answered the questions about technology involvement on a daily basis. It is believed that by providing a retroactive visual design layout, seniors would have less issues interacting with the game.

This game would be created to be simple, or not difficult to play, to avoid any form of negative competition. It will be more focused on collaborative playing, group activities and social interaction (Bjork & Holopainen, 2014). The in-game social interaction will mostly involve some actions such as general greetings, cooperative conversation to play the game and also some emoticons to show emotions in the chat between the players.

With this method, seniors would be engaged to be more motivated to establish communication with other players who could be from outside of Indonesian communities that they never know or met before. In short, while seniors are playing a game, they could interact with others players they are playing with.

7   User Testing and Prototyping

In order to gather valuable user experience feedback, researcher decided to conduct a short period user testing by creating a paper prototype based on the proposed design idea and testing participants to do some tasks with specific scenarios to play the game.

7.1   User Testing

The first prototype was created using a paper prototyping method to first create a low-fidelity prototype in order to obtain feedback from participants about the user-experience, challenges and also their familiarity with the technological device, which was iPad in this case. The iPad was chosen as the platform due to its ideal size for seniors to handle and view the screen comfortably and also because it is easy to operate due to the touchscreen function.
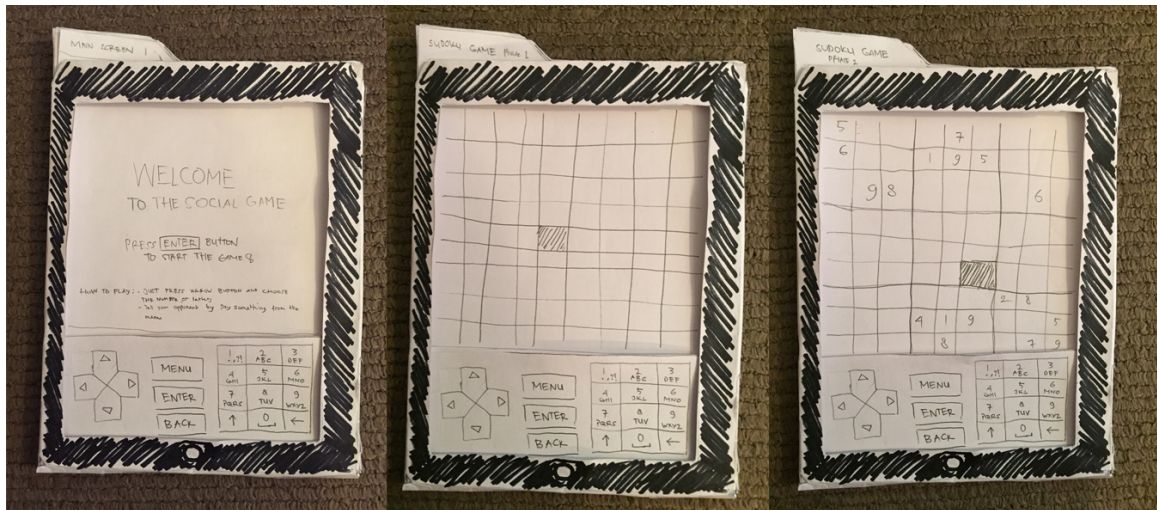
Figure 6: Prototyping: Screens 1 to 3

In prototyping screens 1 to 3, participants were asked to operate the device to play a Sudoku game.
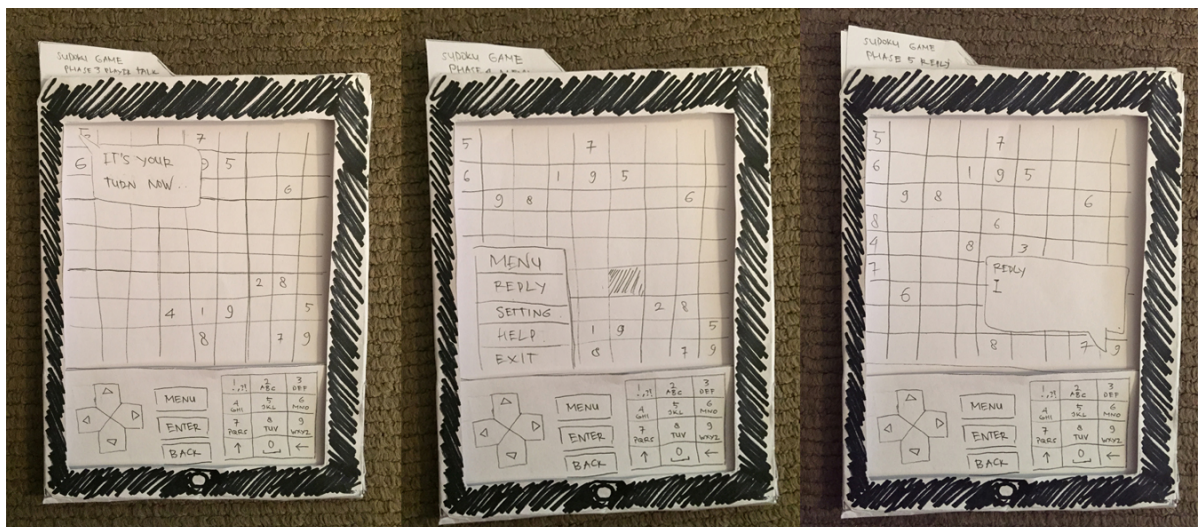
Figure 7: Prototyping: Screens 4 to 6

In prototyping screens 4 to 6, participants were asked to reply in-game communication from other players, accessing the menu while at the same time playing the game.
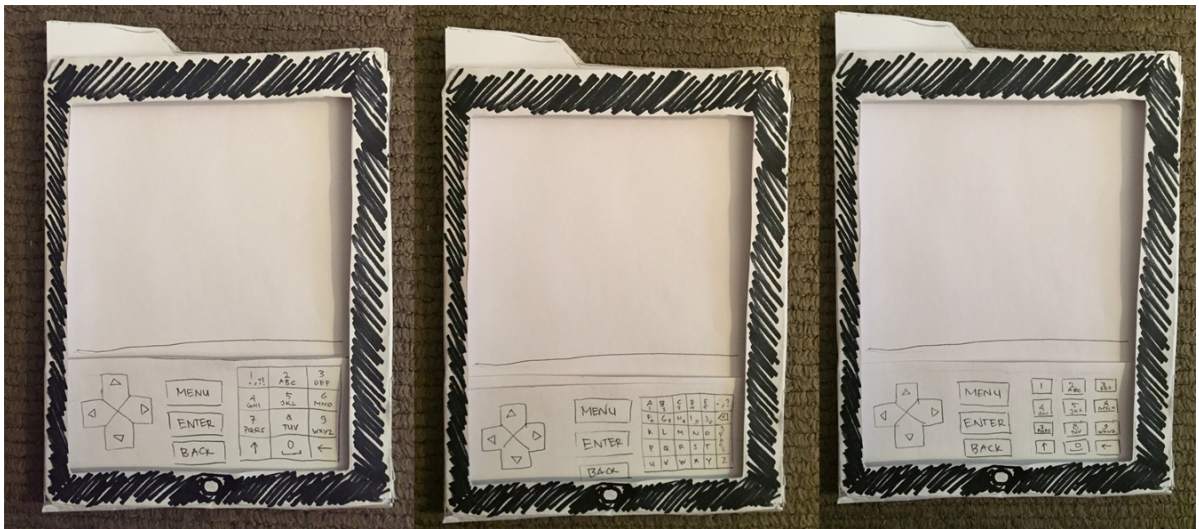
Figure 8: Prototyping: Screens 7 to 9

In the last phase, participants were asked their experience to choose and give a feedback about the on-screen keyboard alternatives that were designed and provided for them.

7.2   Feedback

As can be seen from the above, the user testing was more for assessing the comfort of the seniors with the framework of the game system, such as

1. the idea of playing a game with a hand-held device;
2. comfort to communicate with the other player during the game;
3. ability to access various functions of the menu
4. preference for onscreen keyboard layout

Within this framework, different games could be introduced. The initial idea was to choose a game for the paper prototype testing exercise from popular games such as Sudoku, Snake and Ladder, Chess or Solitaire. Sudoku was selected for its simplicity and paper prototype screens were created for that. Surprisingly, when user testing was conducted, participants did not recognize the game patterns. They mentioned that they did not know what kind of game this is. They said they were familiar with alphabets and words, which prompted the researcher to think along the lines of refining the prototype to a communication-based word game.

Regarding keyboard layout, an alphabetic layout of the keyboard was shown to them. But the participants said that they were familiar with the typewriter and so knew the function of the QWERTY keyboard itself.

Being old and of failing memory, they were also asking whether there would be any guide that will guide them to play the game in order to make them familiar and also assist them when they could not remember some steps.

7.3   Revised Prototype

After receiving feedback from user testing, the researcher decided not to use the Sudoku game, but instead to make a communication-based game. The need to expand on their language and communication skills was mentioned by the participants during the interview. This game is called 'word building' (similar to Scrabble, but simpler). It requires two players to write a word either in Indonesian or English and continue the game by building more words horizontally or vertically. To make new words, they can simply type any letters using the keyboard (unlike Scrabble, where the players can use only letters from a small group of letters they select blindly). By playing this game, senior players would be able to engage with other players and communicate mutually to gain some suggestions or supportive information to maintain the gameplay.

Using the English language option, those wishing to improve their language skills could play with a person capable of teaching them. Conversely, they could teach the Indonesian language to non-Indonesians on a quid pro quo basis using the Indonesian language option with them.

The participants said that they were familiar with the typewriter and so knew the function of the QWERTY keyboard itself. This made the researcher feel that the typewriter keyboard could be a retroactive design feature that would make the seniors feels comfortable with the game. The on-screen keyboard will, therefore, adopt the QWERTY keyboard layout. There will be in-game display option to adjust the font size based on each player's preferences and also in-game guide to assist players when they are unable remember how to play the game or need some assistance. The top of the screen will display the player's status on the left end, latest score and rank in the middle and an avatar of the player on the right end.

7.4   Prototype Guideline
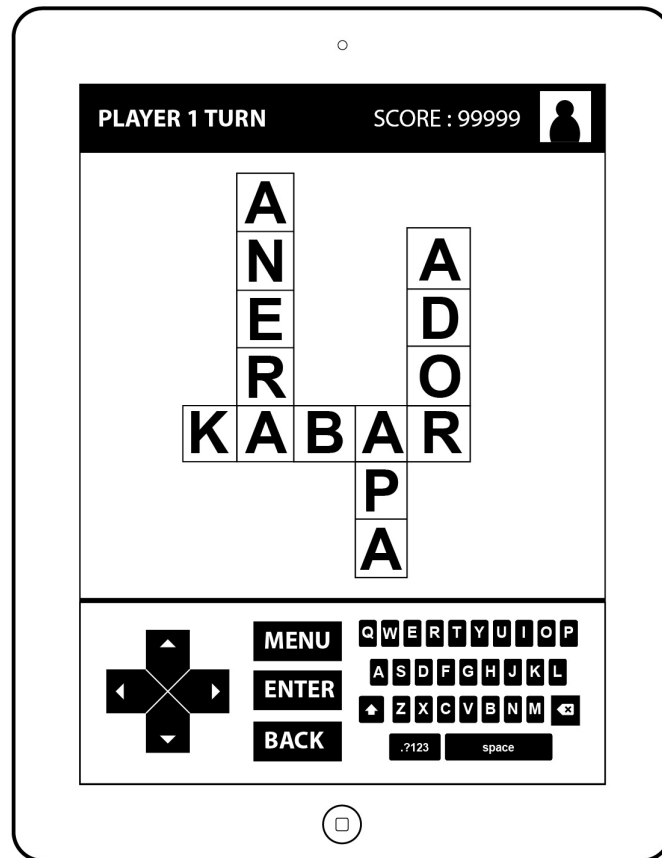
Figure 9: In-game screenshot

Figure 9 shows the screenshot of game play where some words have been placed and two players are playing the game. Both players have three main options; MENU, ENTER and BACK, and a QWERTY layout keyboard. Although not shown in the screenshots, the native feature of touchscreen devices of displaying enlarged single letters upon touching an onscreen keyboard will be used to support seniors by compensating for vision loss due to ageing. Players can continue playing the game by typing the word to be

put on the board so the game keep continuing. On the top bar, there is essential information for both players to know whose turn it is and how many points they have.
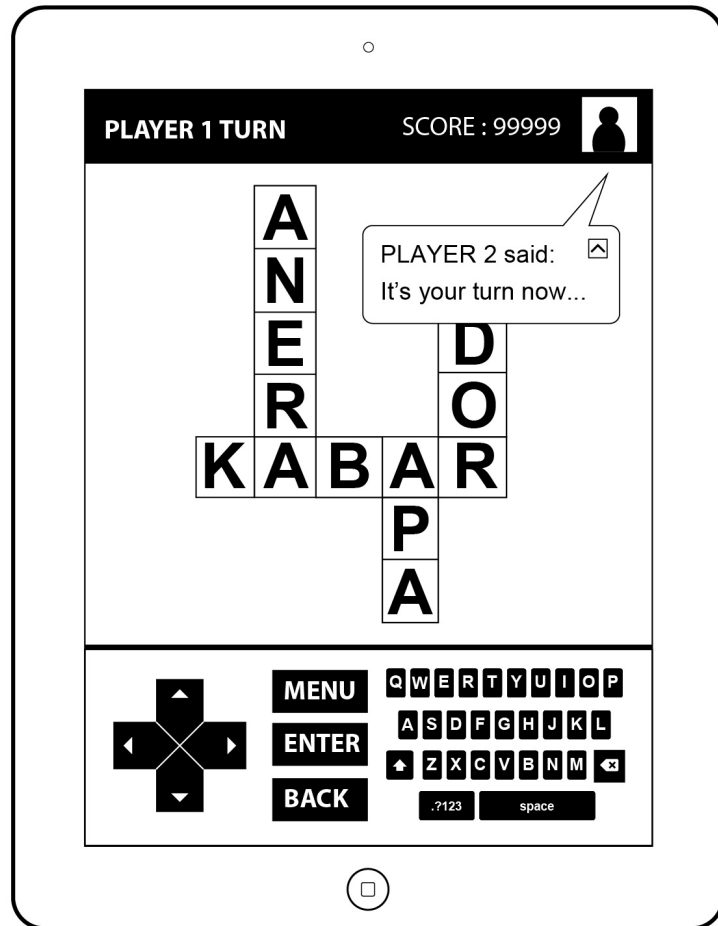
Figure 10: Process of communication

Figure 10 shows the process of communication when Player 2 communicates with Player 1 by typing some words to tell Player 1 that it is his or her turn. To bring up the chat window and communicate with the other player, each player just needs to tap on the avatar on the right top edge of

the screen. If any player would like to see earlier messages, he or she can move the scroll button in the chat window up or down to view earlier messages.
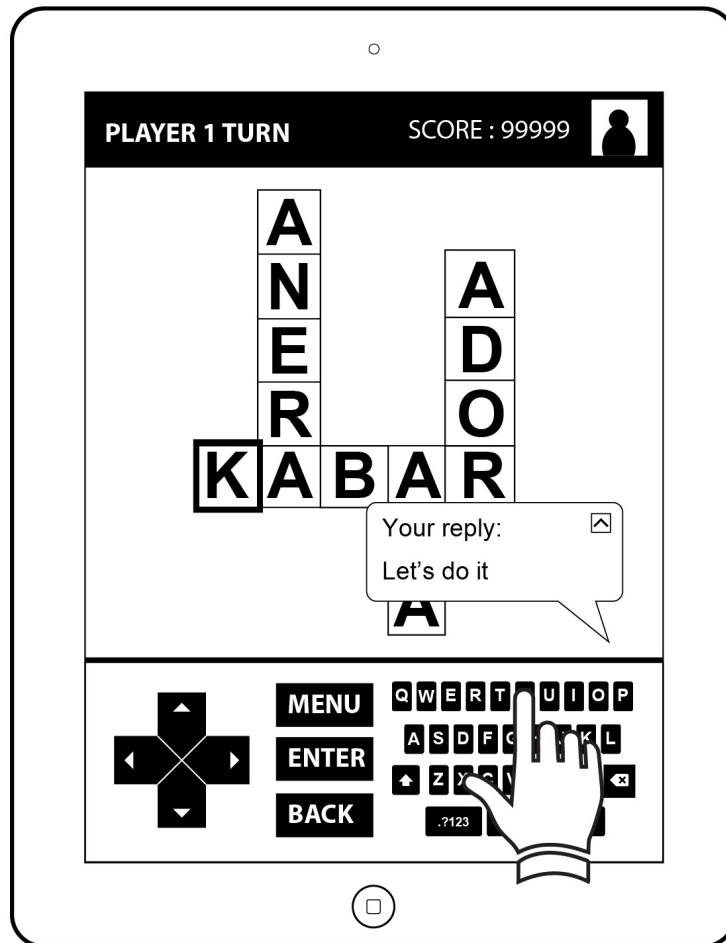
Figure 11: How Player response to communication

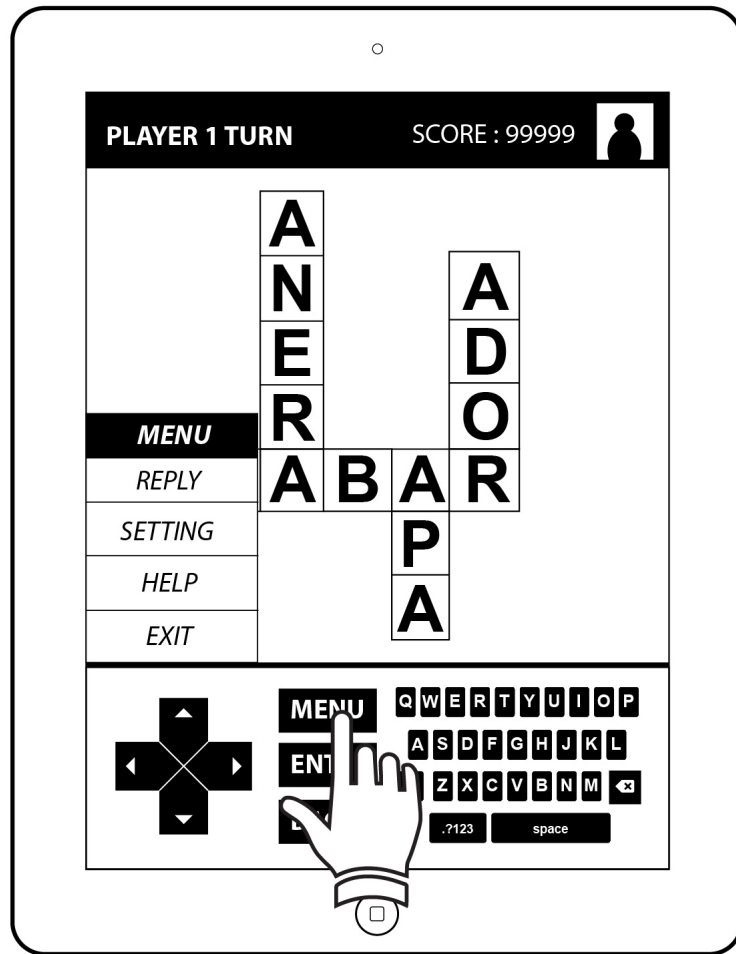Figure 11 shows the process of how Player 1 replies to Player 2 by typing some words using the on-screen keyboard.

Figure 12: Menu Content

Figure 12 shows the content of the menu when players access MENU button from the keyboard. The available options are REPLY to response, SETTING to make some in-game adjustment, HELP to read in-game written guide and EXIT to close the menu.
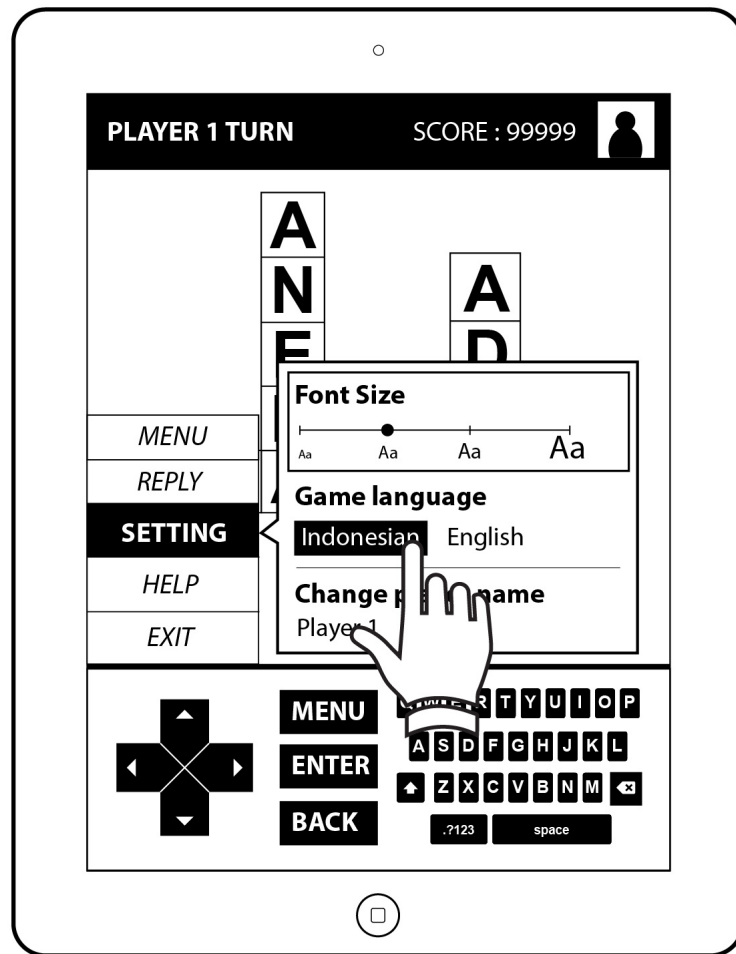
Figure 13: Setting option Content

Figure 13 shows the content of SETTING option that consists of some essential adjustments such as font size, in-game language and an option to change player name.
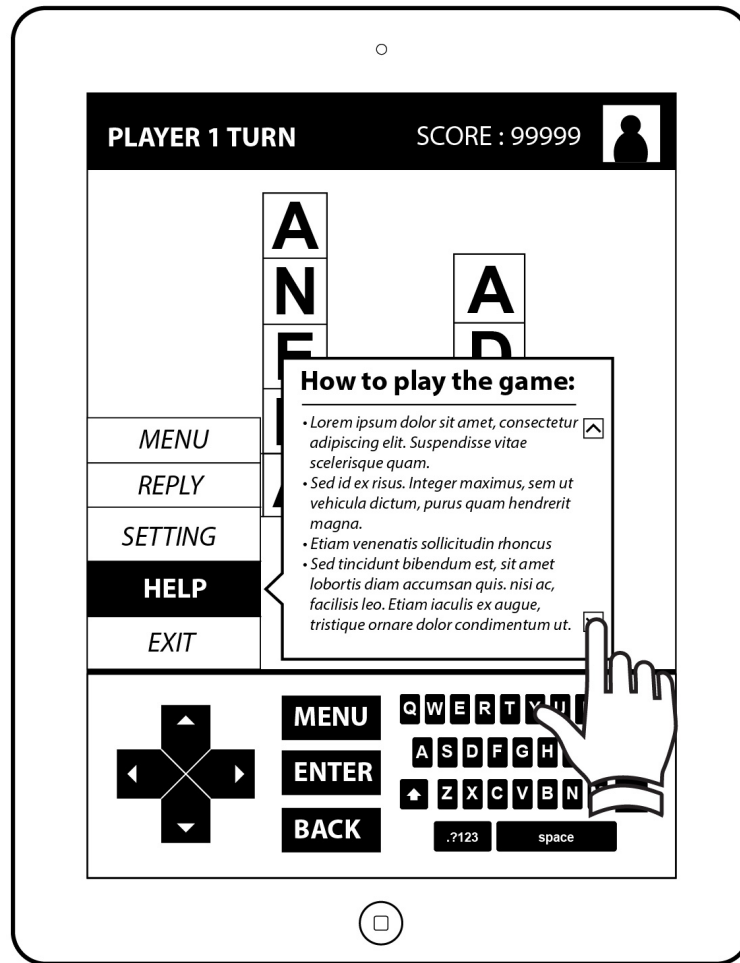
Figure 14: Help option Content

Figure 14 shows the content of HELP option that will assist players to learn how to play the game at first and then to refer when they don't remember clearly or are not sure how to play the game.

8   Conclusion

This research project is an inclusive design exercise based on user research and user-centered design processes. The design challenge undertaken was to identify the social communication needs of Indonesian seniors living in Toronto and the GTA who arrived at least 20 years ago and to design an accessible technology-based solution to meet the needs.

Senior Indonesian immigrants living in Toronto and the GTA were found to experience a high degree of social isolation due to barriers such as unfamiliarity with the English language, low educational levels, sub-optimal financial status and lack of technology skills. A simple, iPad-based communication game prototype was designed for them in consultation with them. Although designed for seniors, this game can be played by all ages.

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Appendix A – Interview Guide

Introduction

Thank you for participating in this interview. You have signed the consent form and agreed to provide me with information for my project. If you have any questions about the project, please ask any time. If you do not feel like answering any question, please let me know. We will move to the next question.

The interview will be for about one hour.

1. How old are you?

2. What is your profession or expertise?

3. When did you arrive in Toronto?

4. Tell me about how you felt when you first arrived here?

5. Are you keeping in touch with your friends and relatives in Indonesia?

6. How do you communicate with them?

7. Do you have any family members in Toronto?

8. Have you made any friends in Toronto?

9. How do you keep in touch with them?

10. How often do you contact your friends or relatives living here?

11. How do you feel about using technology to communicate?

12. Do you use any technology to communicate, like mobile phone, iPad or

computer?

13. How do you feel about the presence of your friends or relatives around you?

14. How close do you feel with your friends or relatives in Toronto? Why?

15. How important are your friends or relatives?

16. How do you describe your present social life?