

ELDERLY SUPPORT APPLICATION “CHEERS” (CASE STUDY: CITY OF DERABIN NORTH MELBOURNE, AUSTRALIA)

Hersanto Fajri

Universitas Ibn Khaldun Bogor
Jln. K.H Sholeh Iskandar Km. 2 Bogor
e-mail: hersanto.fajri@gmail.com

Abstract — In the society that we are living in, service is one of the most important things that keep an order to a society or a community to function well. This research’s target audiences are the current active elderly and the upcoming future generation elderly among the age of 60 to 80. The area of Darebin, North Melbourne will be the chosen site for this research. Based on some research data, it shows that the rates of the third age are increasing time by time and there are not many options of elderly services out there in our society (BCL, 2010). What researcher found from field observation are the existing services for the elderly often provides negative impressions to the users instead of positive ones. For instance, the lack of freedom is the most common thing that is experienced by most elderly who lives in an elderly centre. It is depressing and the lack of intense care in the retirement village is often being encountered. The other elderly service which is the residential age care facilities is not affordable for everyone although it provides better services to the users. Since Australia consists of multi-cultural people from all around the world, therefore the need of creating helpful services in the field of technology information to assist them to live well is a big achievement for this research.

Keywords — Multimedia, information technology, elderly, elderly support application, ios, ipad application, Derabin city council.

1. FOREWORD

A. Background

Australia is one of the countries that have the oldest population in the western world (Parson 1993). Elderly is the largest user groups in the use of health facilities provided by the government. This is very normal to those who are baby boomers to have very good living conditions on the day they retired for 20-40 years ahead. Many of those elderly develop new interests after they retire. These interests and talents should be nurtured so that they all become active, enthusiastic and have a strong memory for the duration of their retirees. They’re actually quite capable of absorbing information to learn new things. According to Jones (1989, p. 12) that learning differences are not so great until age 70 years or older. This is a favorable time for them to learn new things, spending time with family and friends and develop new interests.

The elderly are actually people that are similar to the younger generation with interests and talents, just that we are from a different generation. Today, some elderly never stop learning new experiences in their lives and one of them

is the use of information technology. The use of modern technology by people among the age of 12 to 60 is growing very rapidly this modern era which became a very common thing in our society (BCL, 2010). Communication technology is actually very diverse starting from the use of the Internet for browsing, the use of a mobile phone to communicate directly, email to send electronic letters, and online communications that can be done from home and abroad with little cost. This technology may be a common thing for young people and young executives today. However for some elderly, these findings are something hard to be accepted and difficult to be understood by them even if they try to learn. According to the Australian Social Trends, Internet and computer use at home between 1994 to 2000, doubled from 0.2 million users to 2.2 million users every day. Although its use is increasing every year, the percentage of elderly people over age 65 who use computers and the Internet is very small, about 10 percent for computers and 6 percent for the Internet. This may be explained from the knowledge and skills they are low for these technologies and fewer opportunities to acquire computing skills during his lifetime.

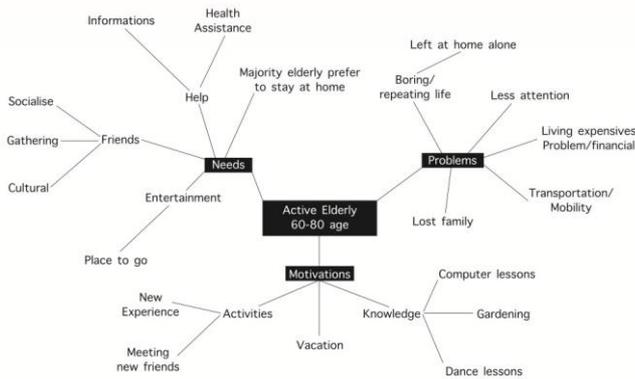
Current elderly and the future generation elderly will be much difference in the future. Those who grow older in the future will not find hesitation with the use of modern information technology gadgets that has evolved since they have already accustomed to the use of technology when they were young. This can be seen from the total percentage of persons aged 35-64 in the present (future elderly) that many uses the internet as much as 31 percent and this number will continue to grow every year. “The world is rapidly aging: the number of people aged 60 and above as a proportion of the global population will double from 11% in 2006 to 22% in 2050. By then there will be more and more parents of children (aged 0-14 years) in the population for the first time (BBLC, 2010). Looking at the data already obtained from the Australian Social Trend, it is believed that in Melbourne 2020 later on, they all will not feel awkward in using the latest technology, which will be circulated among the community for various needs, and various advanced equipment will be created for various people without any obstacle to learn all this.

B. Objective

Seeing the problems faced by the Australian elderly in Darebin during their retirement period that is the problem with the environment around them which is the lack of attention, memory loss, declining health, less activity, no friends and boring life. We recommend a solution that could improve their lives for better days ahead. This solution was

later be able to assist them in developing new interests and talents after a period of their pensioners. In addition, to increase interest and new talent, we also wanted to encourage the elderly to improve their knowledge of information technology that is growing rapidly today. With the help of information technology, the expected life of elderly who previously monotonous and boring can be changed dramatically to be more fun, useful and meaningful. Moreover, this solution also represents a breakthrough to solve the problems that will be faced in Melbourne 2020.

II. IDEATION PROCESS



THE MINDMAP BOOK: HOW TO USE RADIANT THINKING TO MAXIMIZE YOUR BRAIN'S UNTAPPED POTENTIAL, 1996.

Research ideation process involves the earliest part of brainstorming session, mappings and generating ideas/output. The mappings and ideas enable us to build ideation foundation so that further new ideas could be developed. Research is done after the brainstorming part to increase the information that backup the ideas and use as a reference. Resources are evaluated for the purposes of getting the right source to support the process. Research resources are then used to create matrix to find out the advantages part which will be used as a guideline. Critical thinking will be the next stage to concern with ideation with judging the benefits and seeking the errors from it. Testing the ideas on users will allow to gain feedback which gives us problem solving deals with finding out what are the causes of the problem and then figuring out ways to fix the problems to improve the idea.

A. Opportunity

The service design idea 'The Elderly support service application' which works as a system service that assist the elderly of Darebin has covered most of the existing problem that we found out from the elder's living lifestyle. First of all, the opportunity that this service design idea is a link which works as a bridge to connect the people of Darebin with the Darebin's future planning plans. It allows the council to provide information and activities that they plan ahead to the people who uses the services. Other than that, it also provide personal helpful services to the elderly such as online purchasing stuffs, keeping in touch with their close ones and etc. The systems of the services are designed to be

user friendly to all ages as the idea is not to complicate the users, especially the elderly. Most importantly, it is one of the best ways of keeping the elderly of Darebin to a pace of healthy lifestyle.

B. Problem

The configuration of how the system works smoothly on disables is one of the biggest service design problem that has been faced. It was difficult to figure out the idea of designing a service that is able to assist the blind and deaf people at the same time. In involves a lot of new design ideas to create something really new to achieve that stage. Because the idea was to create something which is sustainable and close to zero waste cycle, some disable designs that applied on are things such as colour blind assist, semi deaf assist with loud speakers, font size selection for people who have eyesight problem and etc. The other thing was when it comes to dealing with the consideration about elderly standards when it comes to the design of the font sizes, colour selection for every buttons or background, and function that is user friendly to elderly has to be very specific so that it doesn't complicate the users. It was quite challenging to design something to an age group that came from a totally different background and generation. It was hard to visualize and understand completely what they need until we did some prototyping test on the users. The stage requires a lot of research to complete the design.

III. RESEARCH METHOD

A. Interview

The first method that is conducted to collect data from the users is using interview techniques. Interview as a technique of our research is best to know how target run their daily life inside and outside home. The interviews cover several questions such as, how their lifestyle, their daily needs and how they interact with their friends and family. Interview helps knowing more details about the users in making the solution of the problem that they will face later at Melbourne 2020.

The interviews has been conducted with three elderly people with different ethnic backgrounds, there are come from China, Britain and Australia. The interviewees are average 65 years old and all of them live in different suburb. From the interview, we get some activity differences between Asian and western elderly. Usually, Asian elderly likes to do morning exercises such as Tai Chi along with their friends while the western elderly prefer to read books and gardening in their yard. Although they come from different ethnic, they have similarity in common as the elderly that is need company to do activities together, need new friends who can understand them and require a variety of new activities that can support their quality lives.

B. Contextual Analysis

B.1 PESTE

Every services that exist in this world will always has a relationship with the other surroundings. Variety of service system has certain impacts to political, economical, social,

technology and obviously environment. These five factors that has been mentioned are the key factors that some institution or other related party have to considered and analyzed about. In connection to our research case the PESTE analysis as below:

B.1.1 Political factor consideration

Council is the smaller scope of the government, the system that we decided to do will need the big role from the local council. It will take more efforts from Darebin local council in terms of maintaining the circulation of tax or council rates policy and putting more attention to the whole system so they can keep the ongoing system worked well.

B.1.2 Economical factor consideration

Serving elderly is a cost-taking task. Looking at the economical perspective, the lay out of the system help users in many ways especially for those with financial problem such as pensioner as well as veteran. Hence, no matter who are they or how poor they are, they still can enjoy the service through the council.

B.1.3 Social factor consideration

Based on our research objective, building social sustainability is the main achievement of the research. The service that we have designed allows users to interact with other and making a new subculture among the users. In short, this is the way that the service was designed to keep user's mind active and healthy as well as making elderly life more valuable in society.

B.1.4 Technology factor consideration

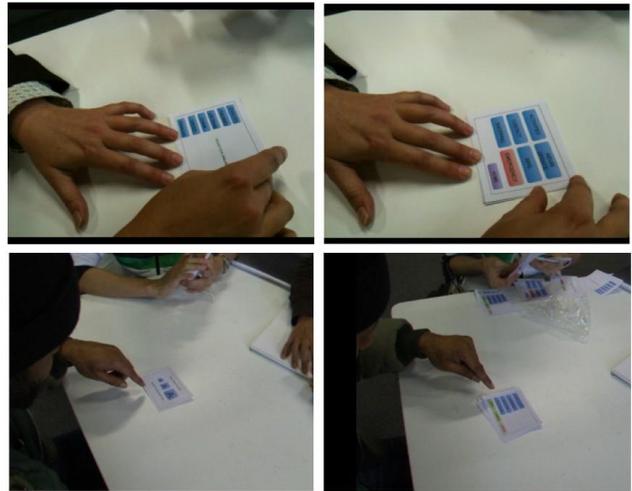
As we living in advanced era, technology has becoming more and more familiar to people in this world. Elderly people should also be able dealing with new technologies. It is a matter of silencing the dictates of the new technologies, since many and diverse barriers are erected by the technological revolution in everyday life. In order to enable elderly people to participate in modern ways of life, they must be given the opportunity to learn how to handle the new technologies (computers, mobile telephones, Internet). <“European senior citizen union”>

Therefore, technology could become one of the solutions for elderly in improving their living lifestyle and keep up with the world globalization.

B.1.5 Environmental factor consideration

The circulation system of the service that we made is based on the term of sustainability. The whole system is proposed in order to achieve as close as possible to zero waste. User will be leased some device by the council but not to own it, so they have to give back to the council as they finish using it and keep it circulating so there will not be an e-waste which is sustainable.

C. Prototype Testing



This is the rough prototyping that conducted before making the design outcome. This prototyping is tested into people with different ages of group and shows that different group of people from different background they respond differently.

IV. PRODUCT OUTCOME

The project idea involves designing an application that assists the elderly, so it involves the use of technology. The other reason for key finding technology is because it is one of the most important and useful aspect in our society. Technology is also one of the ways to keep a system of services to be well function, to keep the society connected, and etc. The idea is to keep the environment sustainable, so the other key finding in the ideation progress is sustainability. Therefore, decision to install application on existing technology gadgets is to create less waste to the environment and it allows the save of cost for manufacturing. The other key finding that this research focus on is Darebin council's future planning because this project will also be a future design for the community of Darebin. The research on the future planning of Darebin council's is important because it allows us to design something that is useful and could assist the council's plan in the future.

A. Visual Design Concept

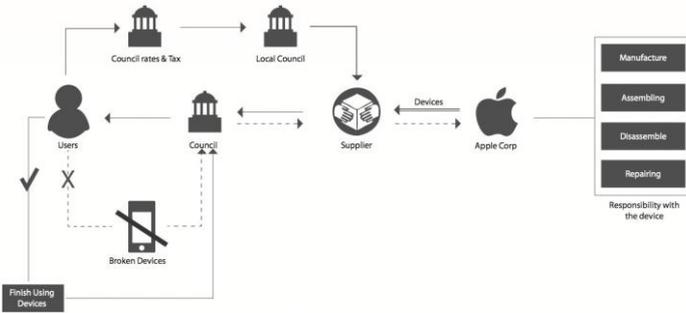
The concept of the design application is 'simple and user friendly'. Bearing in mind that our target user is elderly with their limited ability. Therefore, the design concept came up with the simple use of colours, icons and design layout. All the colours that we use are less striking colours that elder people will comfortable to see. The main buttons are designed with different type of colour using that associate each meaning so that the user will take less time to read or understand especially distinguishing the colour to the background.

Icon is part of the important aspects in designing an application. Keeping the icon simple and representative will be helpful for them, by making it easy to read and not complicated design, the user will easily interact with the application itself. The lay out of the whole application is quite basic. All the function are laid out in one page, there is no single small specific function there. Most of the function

has the same role in every page of the menu. It helps elderly to engage with all the function and use it comfortably anywhere anytime.

Remembering that the device we will be using is an iPad, normal function of the iPad itself will still be available to use. The application that we design will minimize and appear as a normal toolbar so user who technology savvy may use the original iPad function.

B. Concept of the system



Circulation mapping.

This circulation system puts several benefits for a lot aspect either social, industrial, and environmental aspects. Derabin city council takes part as a information hub for all users so that every detail information will be sent and reported at the council data based. The mapping also shows that any risk hapened to the device will be sent back to the council for further maintanance and will be reused for another user or service back to the assembly part if there are any system or physical issues. The number of the registered user could also recorded as data census for the Derabin area.

C. Visual Design Product Outcome

C.1 Device Home Page



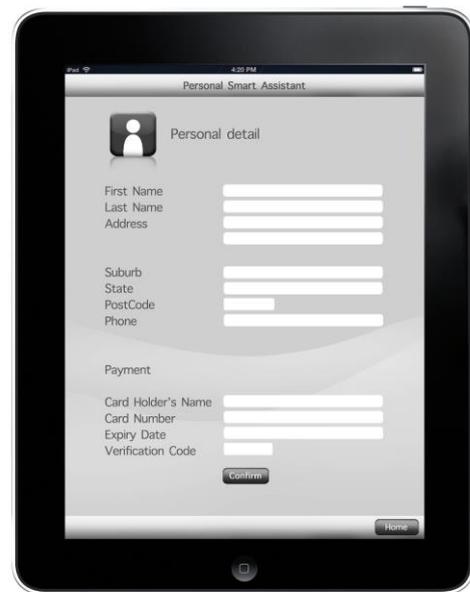
Main menu, with the small icon on the left hand side. This menu will appear at the first time user start using this device.

C.2 Font Selection Page



Font selection menu, allows user to choose how big the text size that they are feel comfortable.

C.3 Personal Detail Form Page



Personal details menu, where user start to activate the by putting their personal details so they can be recognized by the system yet the data will be putted as a citizen status in the Derabin city council database

C.4 Language Selection Page



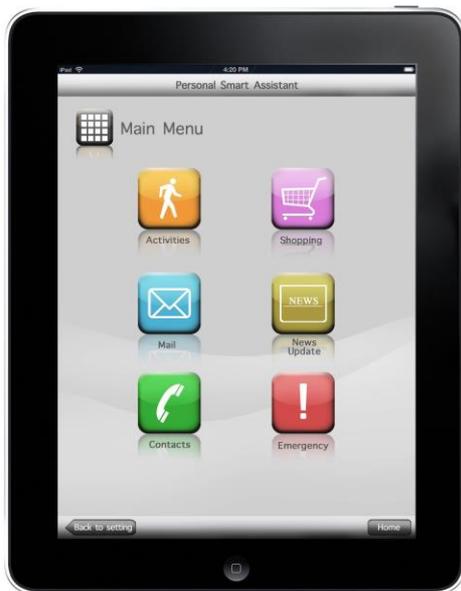
Language selection menu, let users pick their mother language to run this application. These six chosen language are the most nationalities that migrates to Australia.

C.6 Activities Page



This menu will appear as they click the “activities” menu. Let user interact and get variety of activities through this menu.

C.5 Main Menu Page



Main menu, it has six buttons activities, shopping, mail, news update, contacts and emergency.

C.7 Activities Detail Page



Allows user to have detail information and respond to the activities invitation. If user click yes on the small pop up menu will appear and ask whether they want to be picked up or not.

C.8 Contact "Video Call" Page



This is preview of "contact" menu when the video call is active.

C.10 Compose mail Page



When it comes to compose mail menu, it has a virtual keyboard to type the message.

C.9 Mail Menu Page



Mail function, it has, compose mail, inbox, outbox and trash just like the other mail function.

C.11 Online Shopping Page



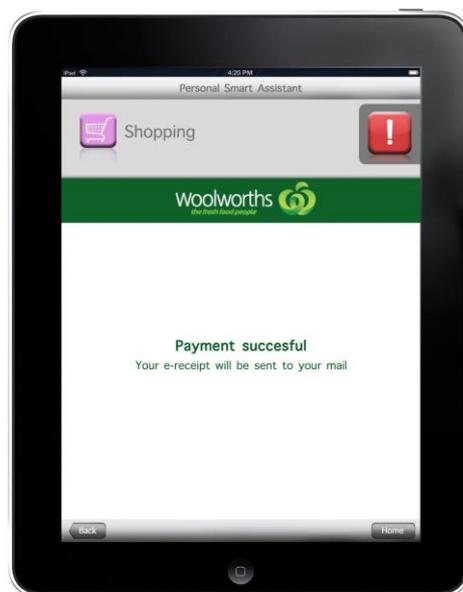
When the online shopping menu is active, the first page will show is choosing the grocery company they want.

C.12 Item Selecting Page



After user finish with the item choosing, the shopping list will show up and tell user how many items as well as the total price.

C.13 Payment Confirmation Page



After user click pay and agree with the payment and tell you that your receipt will be sent to your mail.

C.14 Reminder Function



This the reminder feature. Allows user to be reminded if they have activity the day after. User can set how many days prior to the date that this feature will remind them.

V. SUMMARY

The importance of services to elders is becoming the focus point of Derabin future planning to our society. The hazards of lonely elders are growing with respect to their physical and emotional well being. Sometimes an unwell planned retirement can be harsh to some people when they reached a certain age. This causes them to become a victim of many issues or problems which eventually paves way for insecurity in the society. This research includes the pros and cons of elderly living in the society which requires sufficient need of their health, material, and financial, emotional care. This kind of issues can be solved and taken care through good services that can assist them by providing healthy activities. Activities that help elders to know about the interesting side of their life over sixty and the subsequent steps that allows them to feel for their secured and safe living. Therefore, my group has decided to design an elderly application that runs in an ipad that will be loan to the users from the Darebin council to assist them with their daily life schedule and activities. The idea is to support Darebin Council's future planning for year 2020 as well. "Cheers" elderly application works as a bridge to guide elderly to a much healthier way of living. The services that we designed is one of a way to ensure a proper way of creating a sustainable cycle loop, but most importantly a facility that helps the society to live a happy well being life for now and the future.

VI. REFERENCE

1. Anna, L 2006, Cultural diversity, ageing and HACC: Trends in Victoria in the next 15 years, Howe Department of Human Services.
2. Australian Social Trends 2003, Transport and communication: Household use of computers and the Internet, ABS, cat. No. 4102.0, viewed 23 October 2010, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/2f762f95845417aeca25706c00834efa/feff508f920ab48cca2570fe0198565!OpenDocument>
3. Australian Bureau of Statistics 2006 Census of Population and Housing
4. BBLC 2010, 'Baby boomer and Retirees', Health and Wellbeing, viewed 18 October 2010 <http://www.mylifechange.com.au/>
5. BCL 2010, 'Aged care in Victoria', The services, viewed 18 October 2010, <http://www.health.vic.gov.au/agedcare/>
6. Darebin Community Health & Wellbeing Plan 2009 -2013 City of Darebin 2009
7. Jones, S 1989, Too old - living with age discrimination, N.S.W. Council on the Ageing, Sydney Parson, A 1993, 'Attitudes to the elderly', viewed 23 October 2010, <http://www.ciap.health.nsw.gov.au/hospolic/stvincents/1993/a06.html>
8. Janet, W 2010, 'Healthy and Active aging', Living longer, living stronger, viewed 18 October 2010, http://www.cotavic.org.au/healthy__and__active_ageing Responding to Housing Stress Darebin's Action Strategy City of Darebin 2009 Aarts, E & Marzano, S 2003, The new everyday, 10th edn, Lecturis B.V., Eindhoven, The Netherlands
9. Vaughan, Tay. 2011. *Multimedia: Making It Work, Edisi 8*. ISBN: 978-0-07-174850-6. McGraw Hill.