

CAT 4 RESOURCE DEVELOPMENT

Group 4-065

THE ULTIMATE ELDERLY HANDPHONE GUIDE

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ABSTRACT

Our project aims to educate the elderly on how to use the smartphone and its applications. This will be done by conducting lessons at CareCorner (Woodlands), providing them with a guidebook each and creating a website for them to refer to.

We focused on applications that would convenience the elderlies once they learned how to use them, for example, making a call, using the internet and messaging. We also took into consideration what the elderlies told us they wanted to learn when we conducted the needs analysis. They wanted to learn how to play simple games and listen to music, so we included those topics in the lesson package too.

The course spans over 3 days, with each day teaching content which will gradually get harder. The guidebook acts as a reinforcement for learning and the website acts as a convenient, easy to access tool for the elderly to make reference to online.

1 INTRODUCTION

1.1 Rationale

As Singapore advances towards her goal of being a “smart nation”, we cannot neglect the fact that not all elderly can keep up with this ever changing technologically advancing world. We found that there is a lack of resources, both online and physical ones, for the elderly who want to learn how to use the smartphone. Therefore, we hope that through this project, we will be able to help them learn to use the basic applications of the smartphone.

1.2 Objectives

The objectives of the Ultimate Elderly Handphone Guide are to

- teach the elderly the basic functions and applications of the smartphone
- show them that they are capable of learning new knowledge and skills
- help them connect to the younger generation better

1.3 Target Audience

Our target audience are elderly aged between 60 to 70 who are partially able or unable to use the smartphone.

1.4 Resources

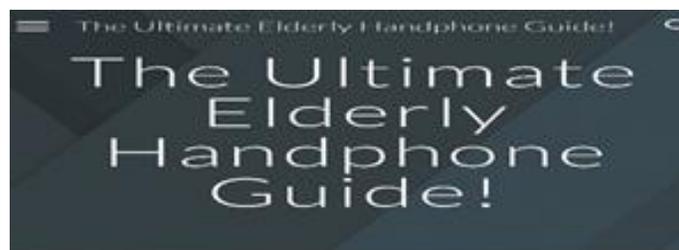
The resources created for this project are the guidebooks, website, and lesson packages we conducted at CareCorner (Woodlands).

1.4.1 Guidebook

Firstly, we have created a guidebook for the elderly so that they can refer to it after the lessons. The guidebooks are in English and Chinese. They are thoughtfully created for the elderly in ways such as having a large font size for easy reading and more graphics to help them learn and understand better. The guidebooks are easy to read and provides step-by-step guides on how to use the smartphone.

1.4.2 Website

Secondly, we have created a website where all information in the guidebook can be accessed easily online. It is intuitive with pictures and neatly organized for the benefit of our users. It is also filled with more pictures and videos to provide a better, easier and more interesting learning experience.



Hello! We are a group of students doing a project on teaching the elderly on using their smartphone!
Our objectives of this project are as follows:
1. To teach the elderly how to:
a) Use basic functions of their smartphones like...
 > Calling / Messaging
 > Taking photos

This is our website:

<https://sites.google.com/student.hci.edu.sg/the-ultimate-elderly-handphone>

1.4.3 Lessons

Last but not least, we collaborated with CareCorner (Woodlands) to conduct lessons with them. During the lessons, we taught and introduced the guidebooks and website to them, along with all of its content. At the end of the 3-day course, we presented them with the guidebooks and a certificate of participation.



2 REVIEW

2.1 Literature review of the topic

2.1.1 Articles and similar programs

Today Online: "Feeling lost in a digital world, some elderly shun technology" (28 July, 2017)

<https://www.todayonline.com/singapore/big-read-feeling-lost-digital-world-some-elderly-shun-technology>

The Big Read: Feeling lost in a digital world, some elderly shun technology

By TOH EE MING



The elderly saw no actual use of technology, and are also scared to learn or use them as they are afraid of leaking personal details or falling for scams, therefore were not even able to use the basic functions of the smartphone because they were worried for their online safety. The elderly did not know how to use applications for social networking, and requires help for the Government and their children to understand how to use the smartphones better. They do not understand what younger generations love so much about smartphones and new technology, and they mostly do not care for it.

Channel News Asia: "It can be demoralizing" (10 June 2017)

<https://www.channelnewsasia.com/news/singapore/it-can-be-demoralising-why-some-elderly-in-singapore-are-8935264>



The elderly felt demoralized when they were unable to learn the basic functions of the smartphone despite being helped, which may discourage them from continuing to learn. However, it was found that there were several steps to prevent this from happening, such as teaching in their more fluent language, letting them learn in smaller groups and more. With the help of people with a similar age as them, they are better able to learn how to use the smartphone as they speak the same language. When elderly are split up into groups to learn together, it was found that they were less likely to give up. This may be caused by the feeling that they are going through their difficulties together with their friends. With moral support, elderly are more enthusiastic to learn.

2.2 Past HCI Projects done

2.2.1 HCI Project: 2017 04-16 (Website for the Elderly)

Even though this project had some content such as how to use the web, they lacked information on basic functions such as: how to turn on the phone, how to use settings etc. Also, they only have a website which lacks content, including basic knowledge needed to be able to use more complicated applications. Because this project relies heavily on their website to teach the elderly, it would not be able to help the elderly who have not learnt how to access websites.

2.2.2 HCI Project: 2018 04-19 (Project Phone Teacher)

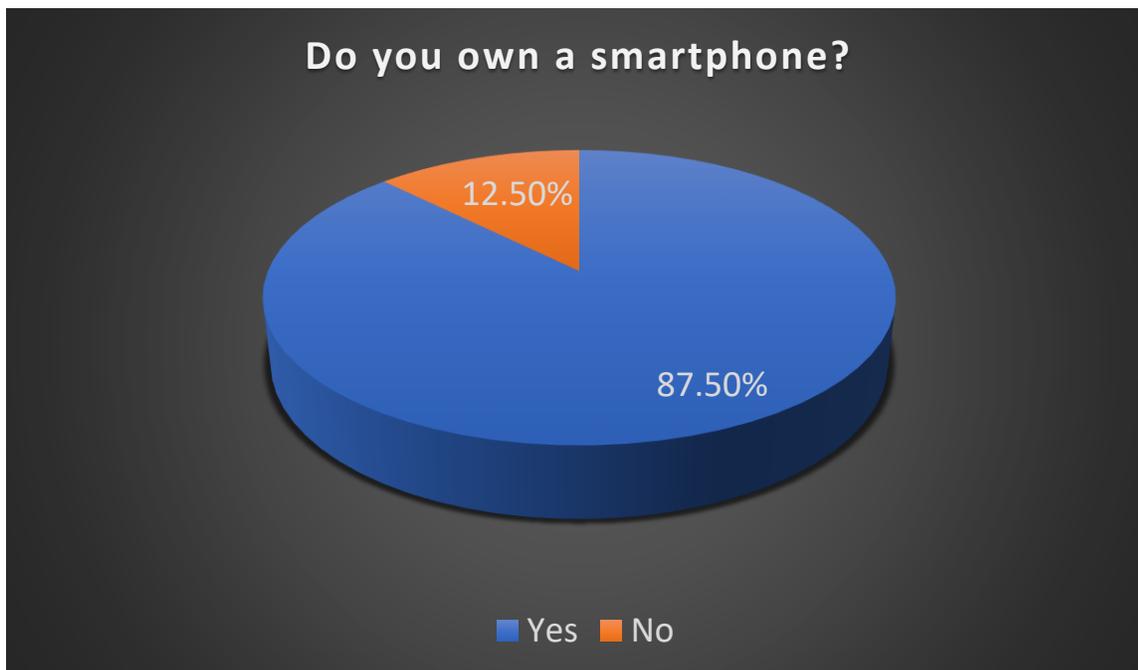
There were several videos teaching some basic functions of the smartphone, however, it was not very informative and it may be difficult for the elderly to access, because they had not taught them how to access websites.

3 METHODOLOGY

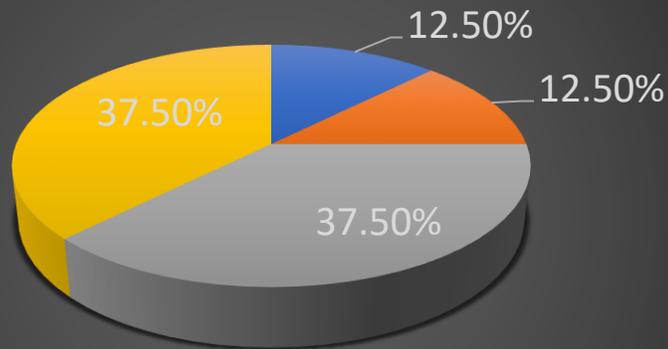
3.1 Needs Analysis

A needs analysis was conducted to ascertain the usefulness of our project. We went down to the activity center to conduct a face-to-face survey with the 8 elderly using paper questionnaires. We also conducted an interview with one of the activity center's staff, and he confirmed that most of the elderly had smartphones but did not know how to use them well. He also gave us some ideas for our program such as using Kahoot! as a platform to engage with the elderly.

3.2 Survey Results

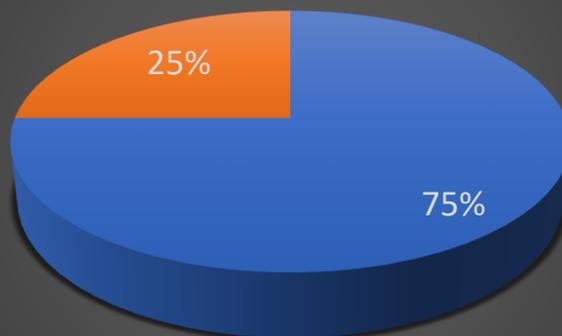


How interested are you to learn the functions of a smartphone?



■ Not interested ■ Fairly interested
■ Interested ■ Very interested

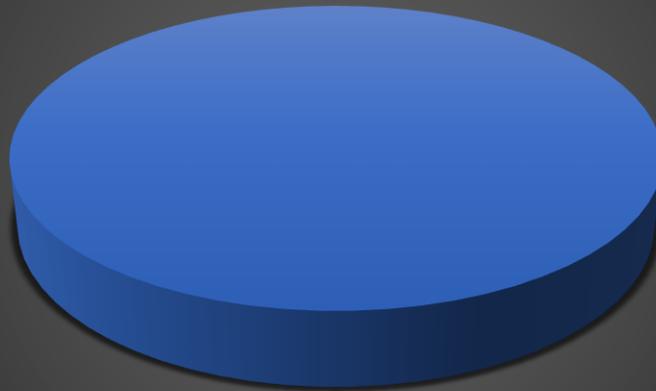
Do you think learning how to use the smartphone will be challenging?



■ Yes ■ No

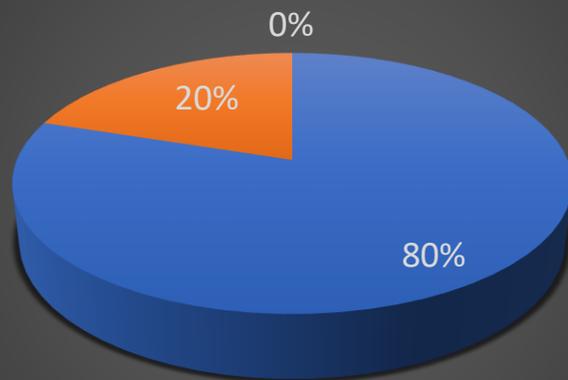
- Many elderlies think that learning how to use a smartphone will be challenging, this may be caused by a fixed mentality by others or a lack of faith to try.
- Through this project, we hoped to change their perception of smartphones and get them to believe in themselves.

Do you think knowing how to use a smartphone is useful?



■ Yes ■ No

How do you want to learn the functions of the smartphone?



■ Lessons ■ Guidebook ■ Website

- Many elderlies believe that lessons will be best for their learning as they can ask us questions about the smartphone.
- However, some of them also think that guidebooks may be useful
- They elderlies did not want to learn through our website as they do not know how to access the internet yet, so they will be more comfortable with it later on.

3.3 Development of resources

3.3.1 Construction of our guidebook

We constructed the guidebook based on the functions that the elderly stated they were most interested to learn, these included messaging, calling others and listening to music

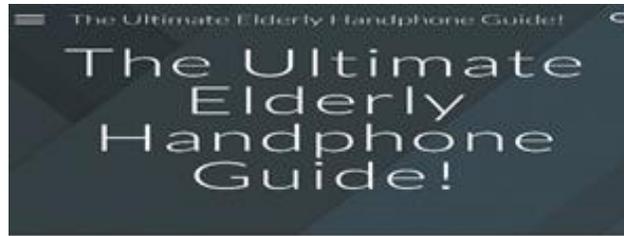
We also took into consideration that since they were elderly, we increased the font size of the guidebook and made multiple guidebooks in both English and Chinese.

Content taught to the elderly included:

1. Basic
 - How to unlock your phone/ settings
 - Making a call
 - Taking pictures
2. Intermediate
 - Using the internet
 - Messaging
3. Advanced
 - Playing simple games
 - Listening to music
 - Managing appointments

3.2.2 Construction of the website

We also constructed a website for the elderly to access, and included all the content found in the guidebook, with extra information and infographics, to make it fresh and intuitive (the extra information included “The application of the smartphone our daily lives” and “scam detection and prevention”).



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1. To teach the elderly how to:
a) Use basic functions of their smartphones like...
 -> Calling / Messaging
 -> Taking photos

3.2.3 Construction of our lessons

We have also planned and conducted lessons. We taught the elderly at CareCorner (Woodlands) all the information inside the guidebook. Also, we learnt through the article discussed previously that elderlies learnt better when they were split into groups, so we split the elderly into small groups and encouraged them to discuss the topics we taught them with their friends. We also increased the number of Kahoot! Quizzes (not shown here) for each lesson as we learnt from experience that it drew the most attention from the elderlies. They were more enthusiastic to learn during the Kahoot! Games, so we increased the number of games to catch their attention. This worked as the elderlies asked more questions by the end of the last lesson.

The elderly had also taken a small quiz before and after the course to see how much they have learnt. (The results will be discussed in the later section)



3.4 Pilot Test

We conducted the pilot testing at CareCorner (Woodlands). We conducted the course over a 3-day period, teaching all the content in the guidebook and the website, and gave them their preferred language guidebook and access to our website. We also conducted quizzes to see how much they have learnt from our course. The response was overwhelmingly positive. However, the elderlies still had some suggestions for improvements.



3.4.1 1st Pilot Test Results

These were some results we obtained from our pilot testing:

Criteria	Pre-course results	Post-course results
Correctly answered questions	60%	80%
How much they think they have benefitted from our course	N/A	9/10
Percentage of elderlies who reported they now had the ability to use the basic functions of the smartphone	N/A	90%

We decided to hold another one-off feedback session for the elderly to rate our updated resources (guidebook and the website) and if they had seen an improvement.

The Ultimate Elderly Handphone Guide/ 超级手机指南	
Played on	10 Jun 2019
Hosted by	YeoYiJie_HCI
Played with	6 players
Played	5 of 5 questions
Overall Performance	
Total correct answers (%)	60.00%
Total incorrect answers (%)	40.00%
Average score (points)	2035.50 points

Fig. 3.1 The quiz we had them play in the first lesson. We split them into groups and had one device for each group. They had 60% of questions right.

The Ultimate Elderly Handphone Guide/ 超级手机指南 - End of Course	
Played on	19 Jun 2019
Hosted by	YeoYiJie_HCI
Played with	4 players
Played	5 of 5 questions
Overall Performance	
Total correct answers (%)	80.00%
Total incorrect answers (%)	20.00%
Average score (points)	4069.00 points

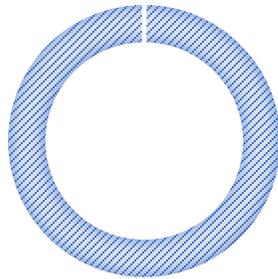
Fig. 3.2 The quiz they played in the last lesson. This time, they got 80% of questions right.

3.4.2 2nd Pilot Test Results

After the final feedback session, these were the results we have obtained from it:

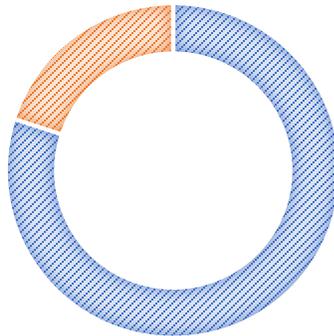
**THE UPDATE TO THE GUIDEBOOK IS
SUBSTANTIAL AND HELPS ME LEARN
HOW TO USE THE SMARTPHONE
BETTER.**

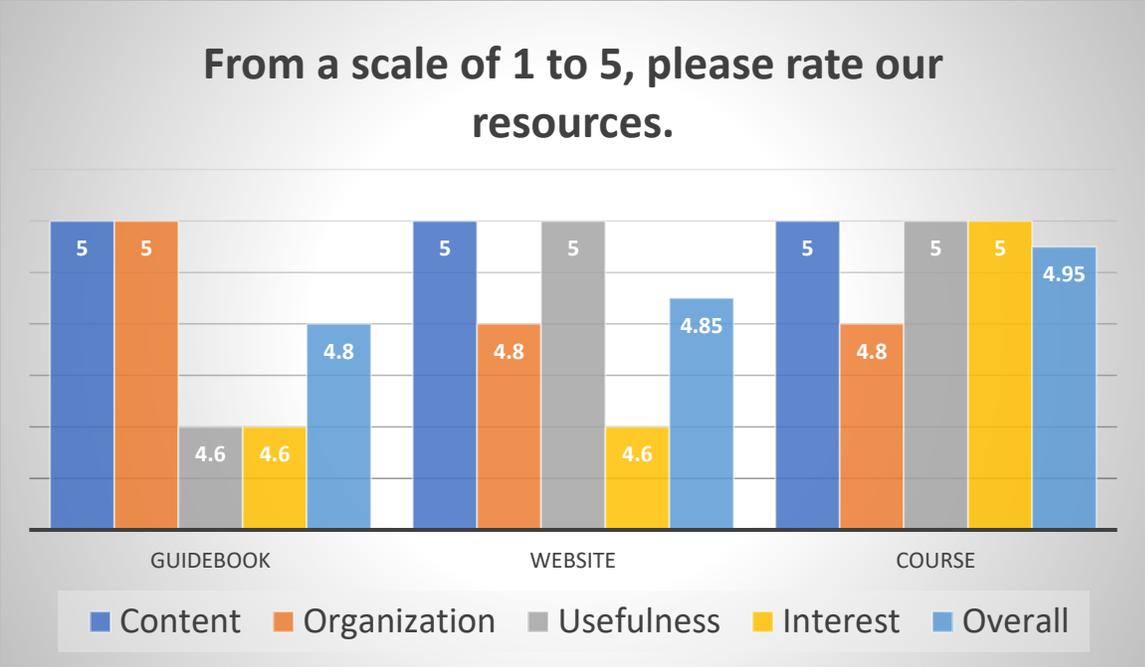
■ Strongly Agree ■ Agree ■ Disagree ■ Strongly Disagree



**THE UPDATE TO THE WEBSITE HELPED
ME LEARN HOW TO USE THE
SMARTPHONE MORE EASILY**

■ Strongly Agree ■ Agree ■ Disagree ■ Strongly Disagree





4 OUTCOME & DISCUSSION

4.1 Improvements to our resources

Even though response to our project was largely positive, there were still suggestions to improve our resources. Firstly, we updated the guidebook with some new sections such as listening to music, and also how to prevent being scammed. On top of which, we aligned the English Guidebook to the Chinese one, to ensure that the translation and meaning conveyed are the same throughout.

4.2 Possible limitations

Elderly who are illiterate or speak other languages may not be able to access the website or the guidebook. However, through other elderlies’ help, we were able to convey the lesson to them in their own language. At the end of the day, everybody was able to take away something from our lesson package. Elderly who may not know how to use technology may not be able to access the website either, but they are still able to make reference to the guidebook, and we try to ensure that they are able to learn something through at least one of our resources (Course, guidebook or website). Some elderly also had completely no interest in learning how to use the smartphone, and it was difficult to

get them interested enough for them to learn at first. However, after some interaction with them, we sparked their interest and they started learning together with their friends at the activity center.

Nevertheless, this project managed to accomplish its objectives, which were to teach the elderly the basic functions of the smartphone, show them that they are capable of learning new knowledge and skills and to help them connect to the younger generation better.

4.3 Suggestion on future works

We suggest that future groups who may want to do similar projects create videos and audio on their website to facilitate learning, to allow all elderly to learn something even if they may be illiterate, and also try to increase the elderly interest in the course by adding interactive game (like Kahoot!). We also recommend that future projects are able to communicate fluently in both English and Chinese and are able to explain the technical terms of how to use the smartphone well.

5 Conclusion

We all learnt the importance of empathy. We are now able to empathize with the elderly who may face difficulty in the society today by being ostracized. We also learnt the skill of coordination and organization, we learnt to conduct the course and the materials that we wish to teach the elderly with our partner at CareCorner (Woodlands), and also arrange the content that we wish to teach them neatly, for easy learning. Coordination was key that helped ensure that our program and pilot-testing was successful, without coordination, we would not have been able to pull off such a program. We also learnt how to be innovative and creative in the way we teach them to keep them interested, and done so through interactive Kahoot! games, as they shown interest in it after the first day of our program. These lessons we learnt helped us gain popularity among the elderly, as there was an increase in the number of elderlies who showed up for the lessons each day. Through interacting with them, we also formed a bond with them and we even learnt their names, and they also learnt our names. On the last day of the course, we even made dumplings with the elderly!



5.1 Challenges encountered

We encountered many challenges in this project. Firstly, we faced the lack of organization. We had to find a time that is not only convenient for us, but also for CareCorner. Next, we also faced the challenge of not being able to understand or explain to the elderly our content as some of them did not even have the most basic of knowledge on the smartphone. However, we persevered with patience and tried our best to teach and explain to them our guidebook and website, and we were mostly successful in doing so. On top of which, we had to come up with ideas to keep the elderly interested in our project and found that Kahoot! was a platform that they enjoyed and we could keep them interested with it. Some of the elderly also spoke only dialect, though we had difficulty understanding them, but with the help of the staff at CareCorner, along with some elderly, we were at least able to convey some basic information on the smartphone to them.

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