# Iphone Application for Searching Wanted and Missing Person

by

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ICT

Dissertation submitted in partial fulfilment of the requirements for the Bachelor of Technology (Hons) (Information & Communication Technology)

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#### CERTIFICATION OF APPROVAL

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## TRONOH, PERAK

## CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

MUHAMMAD MURSYID BIN HAMZAH

#### Abstract

The rise in the index crime statistics and the depreciation of the index Public Safety indicates that, crime has been increasing in Malaysia. Everyday, there have been many reports of snatch thefts, rapes and other sexual crimes, assaults and murders, child abuse and illtreatment of foreign maids, hold-ups and thefts and kidnappings. These crimes have resulted in publics fear and have to live in unhealthy life.

Thus this thesis is the initiatives to discover ways to help the Malaysia Royal Police to capture these wanted people and to find ways to wide spread the information about crime awareness and discover a suitable platform to encourage citizens to help Malaysia Royal Police to reduce crime in Malaysia.

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# CHAPTER 1 INTRODUCTION

#### 1.1 Background

Nowadays, the world as we live in today became more and more unsafe for people to walk around without any information of what already happen around them even in Malaysia. Almost every day crimes were reported to the police whether the crimes are big or small. Rape, robbery, thief snatchers, kidnapping and killing are one of the major reported crimes. As in Malaysia, with the increasing number of crimes happen, the total number of wanted people is also increasing in number as well as the victims of the crime. Most of the victims of these major crimes were reported missing and cannot be found. The list grows from time to time and some of it, we as the citizens don't even notice it.

Thus with the expansion of the development technology nowadays, a proper research can be done to help Malaysia Royal Police in order to spread the information about these group of people to the community for it to be easy for the police to capture the wanted people and find the missing people by receiving information from the citizens.

#### 1.2 Problem Statement

- 1. The existing information provided by the police in Malaysia is not wide spread enough to notify citizen about dangerous people around them.
- 2. The medium used by the Malaysia Royal Police to spread the information is not suitable for today's generation.
- 3. Citizen are not aware of crimes happen around them

## 1.3 Objectives

- To help Malaysia Royal Police to inform citizen on wanted and missing person for the citizen to avoid the wanted person and help Malaysia Royal Police by giving information on their location if seen.
- 2. To help citizen to acquire sufficient knowledge on how to act when crimes happen before them.
- 3. To develop an application to help Malaysia Royal Police to wide spread the information on wanted and missing person in Malaysia
- 4. To provide a platform for citizens to share the information to their friends and help Malaysia Royal Police to capture them by giving information.

#### 1.4 Scope Study

The project involves the study of area:

- 1. Target on iPhone user.
- 2. The importance of crime awareness
- 3. Rise of crime in Malaysia
- 4. Platform and architecture of information presented

# CHAPTER 2 LITERATURE REVIEW

#### 2.1 Rise of crime in Malaysia

From the study of the Malaysia Quality of Life Index (MQLI) 2010, the rise in the index crime statistics and the depreciation of the index Public Safety indicates that, crime has been increasing in Malaysia. According to Amar Singh (2005), the increasing of the crime may because of the several factors such as population increase, unemployment, influx of illegal immigrants, the Indian problem and etc. Moreover, the Malaysia Quality of Life Index (2010) indicates that, in the last few years, the local media, especially the press, have been replete with reports of crime and violence in Malaysia. There have been many reports of snatch thefts, rapes and other sexual crimes, assaults and murders, child abuse and illtreatment of foreign maids, hold-ups and thefts, kidnappings, and not to mention numerous fatal road accidents.

These crimes have result in the publics to fear and live in unhealthy life style (Harold and Charles, 1990). According to Amar Singh(2005) and Report of The Royal Malaysia Police (2005), with the increasing crime reported have cause a worrisome situation and have been a constant source of discussion and debate along the superiors in police leaderships. Besides that, the police leaderships fear that, the public may lost their confidence in the police and may afraid to give information to help police to reduce the crime form happening. Below is the chart showing population growth in by Amar Singh (2005):

| Veen |            | la davi Orima | Desire stand in day, Oringa |
|------|------------|---------------|-----------------------------|
| rear | Population | Index Crime   | Projected index Crime       |
| 2000 | 23,494.9   | 167,173       |                             |
| 2001 | 24,012.9   | 156,469       | -                           |
| 2002 | 24,526.5   | 149,042       | 149,042                     |
| 2003 | 25,048.3   | 156,315       | 152,917                     |
| 2004 | 25,580.9   | 156,455       | 156,893                     |
| 2005 | 26.25      |               | 160,972                     |
| 2006 | 26.93      | 1             | 165,157                     |
| 2007 | 27.63      |               | 169,451                     |
| 2008 | 28.35      |               | 173,857                     |
| 2009 | 29.09      |               | 178,377                     |
| 2010 | 29.85      |               | 183,015                     |
| 2011 | 30.63      | 1             | 187,773                     |
| 2012 | 31.43      |               | 192,655                     |
| 2013 | 32.25      | 1             | 197,664                     |
| 2014 | 33.09      |               | 202,803                     |
| 2015 | 33.95      |               | 208,076                     |

Table 2.1: Chart of population growth in Malaysia

#### 2.2 Crime awareness

Crime awareness is a shared responsibility. As a citizen we are encouraged to think and act in ways that increase our personal safety, the safety of our belongings, and the protection of our vehicle. According to Clarke (1997), crime awareness seeks not to eliminate criminal or delinquent tendencies through improvement of society or its institutions, but merely to make criminal action less attractive to offenders.

From the survey made by Clarke(1997), crime awareness has rarely been accorded attention in policy debates about crime control. The neglection of this awareness stems the mistakes of modern criminology. First, the problem of explaining crime has been confused with the problem of explaining the criminal (Gottfredson and Hirschi, 1990). Most criminological theories have been concerned with explaining why certain individuals or groups, exposed to particular psychological or social influences, or with particular inherited traits, are more likely to become involved in delinquency or crime. But this is not the same as explaining why crime occurs.

The commission of a crime requires not merely the existence of a motivated offender, but, as every detective story reader knows, it also requires the opportunity for crime. In Cohen and Felson's (1979) terminology, it also requires the availability of a suitable target and the absence of a capable guardian. Thus, crime cannot be explained simply by explaining criminal dispositions. It also has to be shown how such dispositions interact with situational factors favoring crime to produce a criminal act (Ekblom, 1994).

Thus, providing the citizens with proper information about how to handle crime if happen to them is one of the steps to ensure the citizens to not panic and manage to decide the best action base on the circumstances happening to them

#### 2.3 Facebook as medium to spread information

Friendster, Myspace, Twitter or Facebok is one of the examples of online social networks that have experience exponential growth of memberships in this recent years. This is because, these social networks offers them an attractive means for interaction and communication, but also raise privacy and security concerns (Boyd,2003).

According to Youngwood (2006), among online social networks, Facebook stands out for three reasons:

- 1) Its success among the college crowd
- The amount and the quality of personal information users make available on it
- Its unique and different from other social networks because the information is personally identified.

Besides, Facebook is of interest to researchers in two respects:

1) as a mass social phenomenon in itself

2) as an unique window of observation on the privacy attitudes and the patterns of information revelation among young individuals.

Moreover, Facebook has spread to thousands of college campuses (and now also high schools) across the Malaysia, attracting more than 9 million (and counting) users from all over the world.

Facebook market penetration is very impressive because it can draw more than 80% of the undergraduate population in many colleges. The amount, quality, and value of the information provided is impressive too. It is not only are Facebookk profiles most often personally and uniquely identified, but by default they show contact information (including personal addresses, phone number and etc ).

From the survey conducted to final year student of Universiti Teknologi Petronas, the survey shows that, the function provided by the Facebook developers to the users is more friendly and easy to be understand. Besides that, 90 percent agreed that, the information shared through Facebook is wide spread faster than sharing it to the email, blogs or newspaper. This is because Facebook has a function call News Feed that allows users to get update from their friends.



Figure 2.1: Capture of News Feed function in Facebook

From the picture above, News Feed function automatically gives the information shared by other users by the time it been posted to their wall. Thus, the information

shared can be viewed by their friends. Hence, Facebook is one of the most effective ways to wide spread the information faster and more reliable.

#### 2.4 Why choose iPhone over Android

In today's generation, smartphone market has grown to a large number of users using it. According to Alvin Scudder (2011), 17.3 percent of all phones in the first quarter of 2010 were smartphones compared to 13.6 percent in the year 2009. This may because of the competition between several big companies in smartphones industries to attend to customer demands and needs. iPhone, Samsung, Nokia, Sony Ericson, and HTC were the leading companies in selling this product. Each of these companies using different platforms such as Android, Iphone Operation System (IOS) and Symbian. Meanwhile for those who are involves in developers of application, they will aim at the market that will give them more profitable income in selling their application. The most popular platform used by users nowadays are Android and iOS.

Android is an operating system for smartphones and tablet computers. According to Google (n.d), android is delevoped by the Open Handset Alliance led by Google. This is because google have purchased the initial developer of the software which is Android in 2005. In the year of 2007, Google has releases the Android code as open source which is free to be used and learn by all developers.

Meanwhile, iOS or iPhone Operating system is Apple's mobile operating system. According to iOS (n.d), originally iOS is developed for their smartphone model which is iPhone, but after a huge demand on this industry, Apple has extended the operating system which is iOS to device such as iPod Touch and iPad (computer tablet). According to Sarah Perez (2010), iPhone has 3 times bigger share compared to Android in OS share of Mobile Comsmption in North America in 2010.



Figure 2.2: OS Share of Mobile Web Consumption North America

From the figure above, generally we can indicate that iPhone OS is more popular compared to Android OS. This is because of its operating system concept and security. Both Operating System offers a concept of direct manipulation, multi-touch gestures and interface control elements which have sliders, switches and buttons, but according to Kavita Sharma (2011), iOS is more smoother compared to Android platform.

Besides according to Dinesh Shetty (2011), iOS is more secured compared to Android OS. This has been proved through approval process for both smartphones platform to download applications. For Android OS, Android users can download from a common infrastructure, which hosts all the Android in a centralized place called "Android Market" and maintains various versions and updates. Any applications can be uploaded to the Android Market and Google does not seem to evaluate whether the application does more than what it says it can do. It follows what is known as a Capability-Based Security Model.





Figure 2.3: iPhone versus Android

Meanwhile, According to Alvin Scudder(2011), for iOS to download, it must go through a centralized plazed called App Store which hosts all the applications centrally for the entire iOS community. Unlike Android, according to Peter Grundstro Mapple follows a strict approach for selecting application and only select and sell or publish applications that does not violated human rights and their concerns. The best thing about iOS is that, the review process also is not limited to vulnerabilities such as bugs, instability of iOS but also the content itself which provide a safeguard towards children from the exposure of inappropriated contents.

Thus this project is done in iPhone Operating System which using Objective-C programming language for the development process. Besides that, the language choosen for the development of application can also affects the performance of the applications. This is because the applications that are linked to C libraries can cause vulnerabilities even in programs written in "safe" languages. The usage of common C string-handling routines like streat, strepy and gets are predominant in iOS applications and this makes these applications susceptible to buffer-overflow attacks.

# CHAPTER 3 METHODOLOGY

This project run based on incremental development life cycle model. The incremental model was chosen because of several benefits which the development of the application will focused on the high-risk or major function of the software first. Then slowly add increased functionality of the software until meet the final requirements. The benefits are the software will deliver faster and bring it to next phase. It also can reduce the risk of requirement changing where the main requirement has been developed in the earlier phase. Furthermore, the model is used to accommodate requirements changes or evolved during the evaluation of the software. It will give the frequent adaptation to alternative designs and revised models so that further enhancements will be made, if needed. In this Incremental methodology, it consist five phases which are planning, analysis and design, development, quality assurance and evaluation. The five development phases are summarized below.

#### Start



End

Figure 3.1: Incremental Model

#### 3.1 Phase 1: Analysis

This project will initiate on the analysis that related with the title project proposed which is Iphone Application for Wanted and Missing Person where it is the crucial phases. The analysis of the project material can be varying which is the analysis on:

- The information wanted to be display on the application
- The flow of the application will be used
- The requirement of the application to meet the satisfactions of the users in delivering the information
- The suitable software to develop the application.
- The design and the idea of the application

Basically the sources of analysis are from related preliminary report or journal. An interview and questionnaire will be conducted if there is any relevant information needed. The type of application platform will be used is iphone mobile application platform.

#### 3.2 Phase 2: Design

After analyze all materials involve, the design phase will come out. In this phase, the application method has been determined. The important part in design phase is to determine the application design and how the information will be deliver to the users to achieve the information spread outcome. The application design will be developed based on several components such as system flows, information provided, feedback, immersive and facebook as a medium to share information. The flow of the application will created based on the information that the Malaysia Royal Police wanted to wide spread to the community.

All symbols and buttons choosed in the module of the subject will be extracted and listed. This is means that design art of all button will be sketched. For example, in the menu selection side when the application started, the button were sketched using Adobe Photoshop and will be extracted to the application platform to replace the default button provided by the Xcode Program which is the iPhone Application Platform. There will be three tools will be involved in making this application which are expected to used in this project. First is Adobe Photoshop which is used to deisgn the button for it to be more attractive. Second is the Xcode program which is used as iPhone application platform to run this project. Lastly, Coda program which will be used to setup the database for making the api for calling the information from the websites to iphone devices. Xcode program will be using Objective – C language meanwhile Coda program will be using PHP language.

#### 3.3 Phase 3: Development

In the development phase, all theories during the previous phase will be used or referred to make the working prototype. The content and interface of the application will be developed and all codes will be implemented to create the application function by using Xcode program. The type/method of application will determine and finalized. All buttons will be modeled and finalized using Adobe Photoshop. The selected multimedia elements will be used to develop the prototype of the application.

#### 3.4 Phase 4 : Quality Assurance

In this phase, the quality of finish prototype will be tested. It will be tested by user testing process which alpha testing and beta testing will be conducted. To make sure it is pass the alpha testing, the application will be tested from the beginning until the end. For beta testing, it is to conduct whether the application have errors or not. In the beta testing, the tests are conducted to generate results that determine the usability of the developed application. Usability testing need to be conducted regarding to this project in order to determine either the developed project had met the five important element of usability. The five important elements are:

- Efficiency, either it is easy for users to apply back the knowledge once they have learned regarding the design or the architecture of the project.
- Learnability, either it is easy for users to understand the flow of the application the first time they encounter the design or the architecture of the project and know how to use it
- Ease-of use, either the users can navigate the application easily and define the design whether consistent and predictable.
- Memorability, either the users can remember on how to use it on the next time.
- Satisfaction, either the design of the interface is pleasant to the user's eye.

#### 3.5 Phase 5: Implementation and Evaluation

For the evaluation purpose, the prototype of the application will be tested completely by target users. The testing will be conducted in public where several students as the citizens were evaluating on the usability of the prototype.

# 3.6 Project Gant Chart

|                                 | 1                    |   |    |   |   | Month/Week |     |   |   |   |    |     |   |   |    |    |            |           |   |   |    |                |           |            |              |    |    |   |
|---------------------------------|----------------------|---|----|---|---|------------|-----|---|---|---|----|-----|---|---|----|----|------------|-----------|---|---|----|----------------|-----------|------------|--------------|----|----|---|
| Activities                      |                      |   |    |   |   |            |     |   |   |   |    |     |   |   | 2( | D1 | 1          |           |   |   |    |                |           |            |              |    |    |   |
|                                 |                      | F | eb |   |   | N          | lar |   | Ι | A | φr |     |   | ł | Aa | iy |            | \$<br>Sej | p |   | Oc | t              |           | No         | V            |    | De | c |
|                                 |                      |   |    | Γ | T |            |     |   | Î |   | Ι  | Τ   | - |   |    |    |            |           | [ |   |    |                | $\square$ |            |              | Γ  |    |   |
| Analysis                        |                      | Γ | Γ  | Γ | Γ | Ī          | Ι   | Γ | Γ | Ţ | Τ  | Τ   | T | T |    |    |            |           | Γ | Γ | Γ  | Γ              |           |            |              | Γ  |    | Π |
| Study on literature review      | 1997<br>1997<br>1997 |   |    |   |   | Ī          | Γ   |   | Ι | Ι | T  |     | T |   |    | Ì  |            |           |   |   |    |                |           |            |              |    |    |   |
| Find the problem statement      |                      |   |    |   |   | I          |     |   |   |   |    | ĺ   |   |   |    |    |            |           |   |   |    |                |           |            |              |    |    |   |
| Research the application idea   | Г                    | Γ |    |   |   |            |     |   |   |   | T  | Τ   | T | I | Ī  |    |            |           | Γ | Γ | Γ  | Γ              |           | Γ          |              | Γ  | Γ  | Π |
| Decide the application platform |                      |   | 6  | Γ | Γ | Γ          | Τ   | Γ | Τ | Τ | Τ  | Ι   | T |   |    |    |            |           |   |   |    |                |           |            |              | [  | Γ  | Π |
| Make application prototype      | Γ                    | Γ |    | Γ | Γ | Ī          | 1   |   |   |   |    | Τ   | T | Τ | Τ  |    |            |           |   | Γ | Γ  | Γ              |           |            |              | Γ  |    |   |
| Design                          |                      | Γ |    |   | Τ | Ţ          | Т   | Γ | Γ | I | Τ  | T   | T |   |    | ٦  |            |           |   |   | Γ  |                |           |            |              | Γ  |    | Π |
| Decide application flows        | Γ                    | Γ | Î  | Γ | Γ | Ī          | Γ   | ľ |   |   |    |     |   | Т | T  |    |            |           |   | Γ |    |                | $\square$ |            |              | Γ  | Γ  |   |
| Designing buttons               | Γ                    | Γ |    | Ī | Τ | Ī          | Τ   | Γ | Γ |   |    | i i |   |   |    |    |            |           | Γ |   | Γ  |                |           |            |              | Γ  |    |   |
| Design information display      |                      | Г | Ī  | Γ | T | Ī          | Т   | Ī | Ī | Т | T  | T   | T |   |    |    | 5.)<br>5.) | <br>      |   | Ī |    | Γ              | Γ         | Γ          |              | Γ  |    | Γ |
| Development                     |                      | I |    |   |   |            |     |   | l | Ī |    | Τ   | T |   |    |    |            |           |   |   |    |                |           |            |              | 0  |    |   |
| Quality Assurance               |                      | Γ | 1  | Γ | Γ | Γ          |     | Γ | Γ | Т | Τ  | T   | I |   | Ι  | Π  |            |           |   |   | Γ  | 1999)<br>1997) |           | 0          |              | 12 | Γ  |   |
| Alpha Testing                   | Ι                    | I | Į  | Γ | Τ | T          | I   |   | Ī | T | T  | Ī   | Ī |   |    |    |            |           |   | Γ |    | の情報            |           | 第33<br>15月 |              |    | Γ  | Π |
| Beta Testing                    | Γ                    | Γ | Ī  | Γ | T | Ī          | Т   | Γ | Ī | T | Γ  | T   | 1 | T | 1  |    |            |           | Γ |   | 1  | Γ              |           |            |              | Γ  | Γ  | Π |
| Evaluation                      | 1                    | Ī |    | Γ |   | Contract.  |     |   | Ī | T | T  | T   | - | T | 1  |    |            |           |   | Γ | Γ  |                |           | ç.u        | 17 (f)<br>14 |    |    |   |

Fugure 3.2 : Project Gant Chart

# **CHAPTER 4**

# **RESULTS AND DISCUSSION**

After making research with regards to the application needs, the researcher had come out with ideas or concepts on how the application will be developed, its requirement and explanation on how it will achieve its objectives.

# 4.1 Data Gathering

Data gathering is a term used to describe a process of preparing and collecting data. In this project, the researcher gather the information through a process which is :

1) Questionaire

# 4.1.2 Questionaire

| No | Question  | Yes | No |
|----|---|-----|----|
| 1  | Did you aware on crime awarenes?  | 10  | 20 |
| 2  | Did you know a proper action if crime happen before you ?<br>(eg : murder/rape/robbery)   | 8   | 22 |
| 3  | Do you know who's the wanted person by the Malaysia Royal<br>Police in your residence?  | 0   | 30 |
| 4  | Do you know who's the missing person in your community?   | 2   | 28 |
| 5  | Did you think the message/warning that the Malaysia Royal<br>Police wanted to spread to community is wide spread enough?                                | 9   | 21 |
| 6  | Did you think we as the citizen have to play a role by giving<br>information to help Malaysia Royal Police to capture the<br>wanted person in Malaysia? | 30  | 0  |
| 7  | Do you have Facebook account?   | 27  | 3  |
| 8  | Did you think Facebook can be used as a medium to wide spread information faster and to a wider community?  | 27  | 3  |

#### 4.2 Data Analysis

#### 4.2.1 Data analyzing on questionaire

Crime awareness is very important as stated in The Campus Crime and Security Report (2006), clearly the best protection against crime is an aware, informed, and alert community.

Based on the survey conducted through questionaire towards 30 students from Universiti Teknologi PETRONAS, 67% of the participants are not aware on crime awareness. This is because they have never been exposed to the theory or learning process on this matter. Besides, 73% of the students participated did not know the best action on how to handle crime if it happens to them.

From the survey also, 100% of the students did not know who's the wanted person in malaysia and 93% of them are not aware of the missing person in their community. This survey include that, the information on these people are not wide spread enough to the citizens as it is proved from the survey that 70% agreed that the information and warning from the Malaysia Royal Police are not wide spread enough towards the citizens.

From the survey also, it indicates that, 100% of the students believe that, as a citizen, they also play an important role to help Malaysia Royal Police to capture the wanted person in their community by giving information on their location if bump in to them. In addition, 90% of the students agreed that Facebook can be used as a medium to wide spread the information to the citizens more faster and to a wider community. This is because, nowadays almost everyone in Malaysia have Facebook account as it proved that, 90% of the survey have a Facebook account.

# 4.3 Project Deliverable

The project planned is currently executed upon prior comments gained from supervisor and people around. Below are the details of the application flow and interfaces.

# 4.3.1 Application Flow



Figure 4.1 : Application flow

# 4.3.2 Start Screen

Below is the interface of a splash screen after the application started. This application is name as Malaysia Most Wanted.



Figure 4.2 : Splash Screen

# 4.3.3 Menu Selection

After the splash screen, the menu selection will be executed. There will be three option to be selected which are wanted, missing and guide. Users can choose either one of them to know the function of each button.



Figure 4.3 : Menu Selection

# 4.3.4 Guide button function

Guide function will show the list of guides to avoid crimes such as thief snatchers, rape, robbery and theft. The user can select the menu at the bottom of the list. Each list of guide are taken from the PDRM website which the Malaysia Royal Police wanted the citizen to have a knowledge to handle the crime if happen to them.



Figure 4.4 : Guide List

### 4.3.5 Wanted button function

The wanted button function will prompt the user to input the state location and type of gender for the wanted people that the user wish to know. For state selection, there will be 17 selection to be selected which include selection for 14 state in Malaysia, selection for the whole Malaysia, and also selection for Labuan and Putrajaya. For gender selection, there will be 3 selection which are male, female or both. Users can submit the form after all requirements is done.



Figure 4.5 : Wanted function with state and gender selection

#### 4.3.6 List of Wanted People

After submitting the form, the form will request the information through API from database MySQL in the web server application. This process will need an internet connection because the database is not stored in the application or the iPhone but in the web server. After requesting, the web server will send the information of all the wanted people in the state and gender selected to the application and will be displayed in arrays of 10 people.



Figure 4.6 : List of wanted people in Kedah

#### 4.3.7 Details on wanted person selected

After selecting the wanted person from the list, the application will execute the details on the wanted person selected. On this page, there will be two option that the user can choose which are call police function and share function.



Figure 4.7 : Details of wanted people selected

# 4.3.8 Call Police Function

If the user have the information about the wanted person they know, they can use the call police button function to alert or give information about them to the police. This will help the police to arrest these people faster and make the citizen feel safe.



Figure 4.8 : Call police function

# 4.3.9 Share button function

The users also can help the police to inform and alert their friends about these wanted people by using the share function. There will be two main function which are share trough email and facebook.



Figure 4.9 : Share function

#### 4.3.10 Share using facebook

For facebook, the user will be ask to input their email addres and password. After that the user will be ask permission to post on their wall post. After user give permission to the application, the application will automatically give the opputunity to the user to either give a bit comment on the information that he/she will put on his/her wall post or just post it without any comments.



Figure 4.10 : Step sharing using Facebook



Figure 4.10 : Result after sharing using Facebook

# 4.3.11 Missing button function

The missing button function will follow the steps exactly like the wanted button function excepts the result will end up with showing the missing person in Malaysia.



Figure 4.11 : Missing function

#### 4.4 Usability Testing

The usability testing has been conducted to a group of 40 people. Each of the participants is free to explore the system until they satisfied with the exploration.

After the participants satisfied, they were given a set of questionnaire that related to the elements of usability. Figure 4.1 shows the results of the usability testing that have being conducted.



Figure 4.12 : Usability Testing

From the Figure above, it shows that the Usability testing percentage is focusing on five types of parameters which are Acceptance (85%), Efficiency (72%), Learnability(98%), Memorability(100%) and Ease-of-use(70%). From these results, the researchers had discover the main problem of the application is the efficiency of the application. There were function such as connecting to Facebook having a small problem which was cannot be connected at a certain time. This is because, everyday Facebook have gone many changes from time to time. It's feature and appearances has change a lot which have effects on the API that has been used by the researcher and provided by the Facebook developers. Sometimes its stable and sometimes are

not. This function buttos can be fully functioning and can be fix when Facebook reduce its updating on new feature.

For overall of the application presentation, most of the participants are satisfied with the flow of application and the design. The other four parameters is choosen based on different purposes in order to enhance the application to perfection. The acceptance is choosen because of either the application is needed and been accepted its existence. 85 percent agreed that, this application should been created to help the Malaysia Royal Police.

Learnability is choosen to know either the user know how to use the application or grasp it by the first time its been introduced. The user also must indicate either they understand the structure of the project. Through out the testing, 98 percent indicates that, the application is easy to be used and can understand the function very well.

Memorability is choosen based on the ability of the users to memorize the flow of the application and ways to use the function in the application by the second time they used the application again. Through the result, 100 percent indicates that the steps were completely remembered and knows to use it in another time.

Ease-of use is choosen based on the ability of the users to navigate the application easily and define the design whether consistent and predictable. The results shows that, 96 percent of the users find that the application is easy to be navigate and can predict the design of the application by the time they want to use it.

# CHAPTER 5 CONCLUSION

After the poster presentation, there were few feedbacks from the internal examiner about the project deliverable to improve the efficiency of the application. The application need to be improved from time to time base on the current needs.

Some of the guide list were stated in Malay in order attract Malaysian people to use it. The suggestion given that, if this application is intended to be commercialize to the foreigners in Malaysia who came for vacation or visiting, this application must be fully in English. This application can help the tourist to avoid these people on the state they were visiting on. Thus the target users will be more global.

In conclusion, this project which is iPhone Application for Wanted and Missing Person is the initiative for the other developers to continue this research for further improvement. With the expansion of further research, this project can be beneficial for the tourist to avoid certain area that has high potential of crimes.

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# **APPENDIXES**





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#### Source Code



