RAKAN COP REWARD PROGRAM

by

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CERTIFICATION OF APPROVAL

Rakan COP Reward Program

By

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A project dissertation submitted to the

Computer and Information Science Programme

Universiti Teknologi PETRONAS

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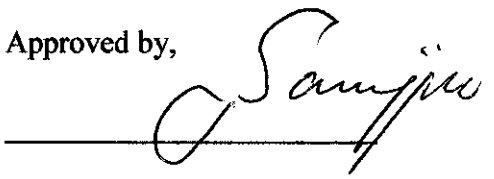
Approved by,



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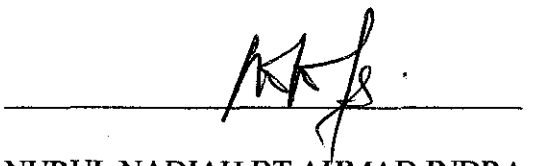
May 2011

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.



NURUL NADIAH BT AHMAD INDRA

Abstract

Rakan COP Reward Program is the extension and enhancement to the current Rakan COP Community Program **to reward points** to public individual who cares to report criminal cases to police department using SMS via their mobile phones. Points rewarded/earned are based on the seriousness of the case reported as well as the quality of the report made.

It is found that the current Rakan Cop system does not get high public participation and the quality of report is much to be desired. Hence the primary objective of this project is to encourage and thus **inculcate better interaction** between public and police personnel for better combating crimes in Malaysia.

The secondary objective is to have a reward system that can help to support the National Key Result Area (NKRA) under the crime category. This project also encompasses elements for building sense of loyalty and community participation to inform the police on crime cases before the crime is committed. Author also will define the boundaries of the system that will be implemented in which the development is to be studied, analyzed, designed, implemented and finally improved.

Methodology that will be used during the system development is prototype methodology. Besides that the author also emphasize on the community responsibilities towards fighting the crime in Malaysia.

The results and discussion will discuss on contribution of the system, next step need to be taken and other aspect that needs to emphasize in the project. Future work will include on integration between the author's enhanced Information Monitoring & Management System (IMMS) that support the Rakan COP Reward Program with USSD gateway.

ACKNOWLEDGEMENTS

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Not forget, great appreciation to the Final Year Project Coordinator, Ms Siti Rokhmah Mohd Syukri and my deepest thanks also goes to my lecturers and friends for their courage and support. The whole program really brought us together to appreciate the true value of cooperation and respect of each other.

Table of Contents

INTRODUCTION TO RAKAN COP.....**1**

What is Rakan COP.....1

How Rakan COP Community Program Works.....2

CHAPTER 1 **INTRODUCTION**.....**3**

1.1 Background.....3

1.2 Problem Statement.....4

1.3 Objectives.....8

1.4 Scope of Study.....8

1.5 Feasibility of the Project.....9

CHAPTER 2 **LITERATURE REVIEW**.....**11**

CHAPTER 3 **METHODOLOGY**.....**19**

CHAPTER 4 **RESULTS & DISCUSSION**.....**27**

CHAPTER 5 **RECOMMENDATION & CONCLUSION**.....**34**

REFERENCES **42**

APPENDICES

Appendix 1.1 Project Milestone

Appendix 1.2 CODE: Rakan COP Reward Program

LIST OF FIGURES

Figure 1.0: Rakan COP Information Flowchart

Figure 1.1: Speech from Lead Minister of Crime Prevention under National Key Result Area (NKRA)

Figure 1.2: Crime Statistic Graph

Figure 1.3: Survey on Concern Over Safety in Malaysia

Figure 1.4: Rakan COP Member Statistic

Figure 2.0: Message Sending Procedure

Figure 2.1: Message Delivery Procedure

Figure 2.2: Sending and Receiving SMS via the interface

Figure 2.3: Sending and Receiving SMS via the SMSC

Figure 2.4: Current Rakan COP Program Flow

Figure 2.5: Enhanced Rakan COP Program Flow

Figure 3.0: Prototyping Methodology

Figure 3.1: Current Rakan COP Information Management & Monitoring System

Figure 3.2: How Rakan COP Program Works

Figure 4.0: Rakan COP Reward Program System Architecture

Figure 4.1: Login Page

Figure 4.2: Main Page

Figure 4.3: Status Page

Figure 4.4: Contact Page

Figure 4.5: Rakan COP Member Info

Figure 4.6: Log Report

Figure 4.7: Reward Message

Figure 5.0: USSD Method in Rakan COP Reward Program

Figure 5.1: User press 1 (Check Point)

Figure 5.2: User press 2 (Reward List)

Figure 5.3: User press 2 (RC Member Info)

Figure 5.4: User press 1 (Rakan COP Activity)

Figure 5.5 : Elements of Mobile Phone

LIST OF TABLES

Table 1.0: Crime Statistic

Table 1.1: Rakan COP Members over the States

Table 1.2 : Technical Feasibility

Table 3.0: Key Milestone

Table 3.1: Tools Required

Table 4.0: Architecture Entities Description

ABBREVIATIONS AND NOMENCLATURES

3G	Third Generation
B2C	Business to Customer
CIMD	Computer Interface to Message Distribution
COP	Copper, Community Police Oriented, Constable On Patrol
GSM	Global System for Mobile communication
HTML	Hypertext Markup Language
IMMS	Information Management and Monitoring System
IPD	IbuPejabat Polis Daerah
IPK	IbuPejabat Polis Kontinjen
MMS	Multimedia Message Service
MOM	Mobile Originated Messages
MS	Mobile Station
NKRA	National Key Result Area
PC	Personal Computer
PHP	HyperText Preprocessor
RMPF	Royal Malaysian Police Force
SME	Short Message Entities
SM-MT	Short Message Mobile Terminated
SMS	Short Message Service
SMSC	Short Message Service Center
UCP/EMI	Universal Computer Protocol/External Machine Interface
USSD	Unstructured Segmentation Supplementary Data
WAMPP	Windows Apache MySQL PHP PERL

Introduction to RAKAN COP

What is RAKAN COP?

As stated in [1], "RAKAN COP was inspired by the realization that the police was the binding element for peace and harmony within any community. According to Tuan Syed Mohd Noor, (personal interview, 2011), the word "COP" was derived from:

1) The word "**Cop**per", an English term for Police. The shortened "Cop" was popularly used by the Americans".
2) Besides that, COP also stands for "**C**ommunity **P**olice **O**riented" and
3) Last but not least, COP as well means "**C**onstable on **P**atrol".

Dapat Vista Sdn. Bhd. is the service provider for running and maintaining the RAKAN COP system.

In addition, using simple and practical approach, RAKAN COP was intended as the medium to bridge the gap between the police and the public. The RAKAN COP approach is to persuade voluntary involvement from the public using Community Oriented Policing and Smart Partnership method focusing more on ***crime*** related cases.

The community role is to act as the "eyes and ears" for the Police and through a variety of platforms made available, it encourages two-ways communication [2]. The purpose of variety of platforms is to utilize the existing of trend in mobile phone. Information is offered by SMS, MMS and 3G.

According to Rakan COP founding member, Paat Azli [2], the objective of Rakan COP are as below:

" 1. To provide an easier mechanism for the public to provide ***crime*** related information to the Police before the ***crime*** is committed.
2. To provide more efficient mechanism for the Police to disseminate crucial information within the Police force, other enforcement agencies and media.
3. To instils the sense of participation and shared responsibilities making it a community project – Community Oriented Policing "

How Rakan COP community program works?

According to [2], the system works as follows:

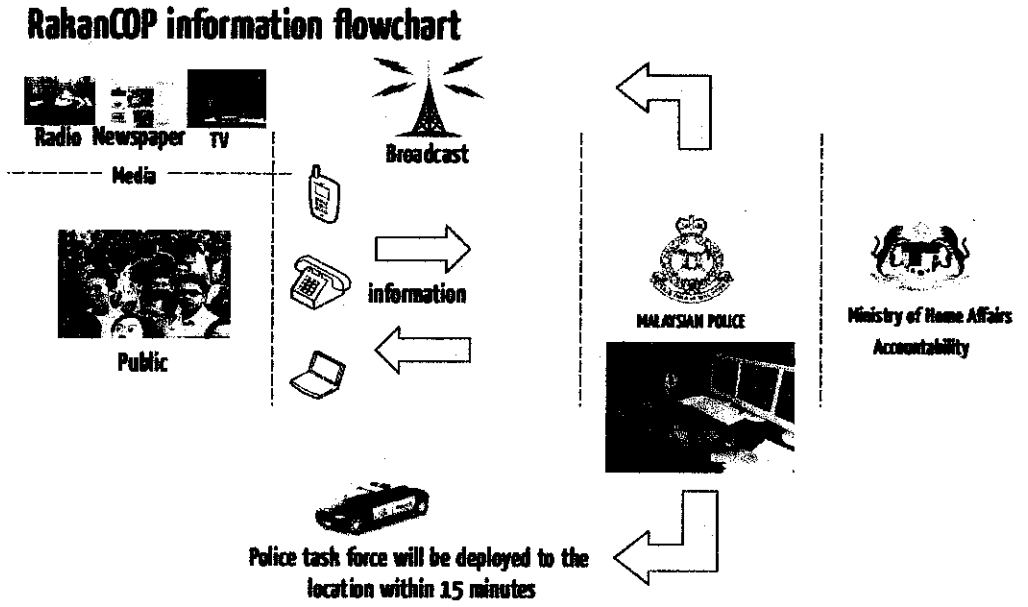

Figure 1: Rakan COP Information Flowchart

1. Based on Figure 1, when there is a crime happened, the witness or victim will send information via SMS,MMS or 3G call to 32728 (DAPAT).

2. The information sent from the sender will be auto distributed to respective Police base or personnel through special portal as illustrate in Figure 1.

3. The sender will receive auto replies confirmation via SMS in a few seconds to inform them that their report is being investigated by the police officer.

POLICE ACTION PLAN:

- **DO:** Do take the information from the community regarding crime cases.
- **INFORM:** Inform and distribute the information given to the respective police station
- **CONFIRM:** Make confirmation upon the report logged. Conduct investigation.
- **PLAN:** If true, police will plan strategy on how to handle the case
- **STRIKE:** Execute the plan and prevent from the crime from happening.

CHAPTER 1

1.0 INTRODUCTION

1.1 Background of Study

"Crime affects all Malaysians, irrespective of race, religion, gender or income levels. To protect our loved ones, we have set ambitious targets to reduce crime levels significantly for which I, as the Lead Minister, am accountable for delivering. Achieving these targets will require concerted efforts by all law enforcement agencies and also the help of community members. While we are actually already starting to see some positive signs on the nationwide level of street crime, we have much more to do to create a Malaysia where the fear of crime is substantially reduced. **I humbly ask that all Malaysian join hands with the enforcement agencies in fighting crime at all levels such that we can all live in a safer nation. [3]"**

(Dato' Seri Hishammuddin bin Tun Hussein, Minister of Home Affairs)

Figure 1.1: Speech from Lead Minister of Crime Prevention under National Key Result Area (NKRA)

Based on the above quote by Lead Minister of Crime Prevention under NKRA program, it is clearly stated that reducing crime is an essential part of Malaysia's plans to become a well developed country. Crime impacts all Malaysians, no matter from different race, religion, education or age. Therefore, this research will focus on how the Rakan COP Reward Program can be an application that will provide interactive and enhanced functionality compared to the current Rakan COP community program. This program are designed to rewards the community who provided **QUALITY** crime related information to the police through Rakan COP program.

1.2 Problem Statement

1.2.1 Problem Identification

i) High numbers of crime rate in Malaysia & Public Safety

Figure 1.2 & Table 1.0 illustrate the statistic of crime rate reported in Malaysia from 2009 to 2010.

Figure 1.2: Crime Statistic Graph

Year/Category	Crime	Street Crime
2009	70481	12391
2010 (Jan-Nov)	59661	8209
Reduction	**15.35%**	**33.75%**

Table 1.0: Crime Statistic

According to Tuan Syed Mohd Noor (2011), there are two types of crime which are:

a) **Violence**: Crime commits that related to the victim's body.
Example: Rape, Molestation, Abuse and etc.

b) **Property**: Crime commits that related to victim's property.
Example: Theft, Snatch, Robbery and etc.

Based on Figure 1.2, the information is separated based on crime and street crime. For crime and street crime it depends on how the crime is committed, whether it involve the victim's body or property or both.

Even though the percentage is decreasing, but the number of reported crime is still high and public still felt insecure especially when they are out of their home. This statement can be supported by Y,Tricia (2010), where she had stated that "In November 2009, the Home Ministry's website opinion polls showed that 97 per cent or **9,729 out of 10,060** respondents felt unsafe because of the high crime rate, and 95 per cent felt that their safety was not guaranteed"[4].

Addressing crime as a whole will have the impact of increasing the sense of security felt by the community in addition to enabling Malaysia to remain in the ranks of "safe" countries for tourism and business investments. Moreover, the public in Malaysia is highly concerned about crime. This has been the case for some years, as the results of the survey in Figure 5 shows.

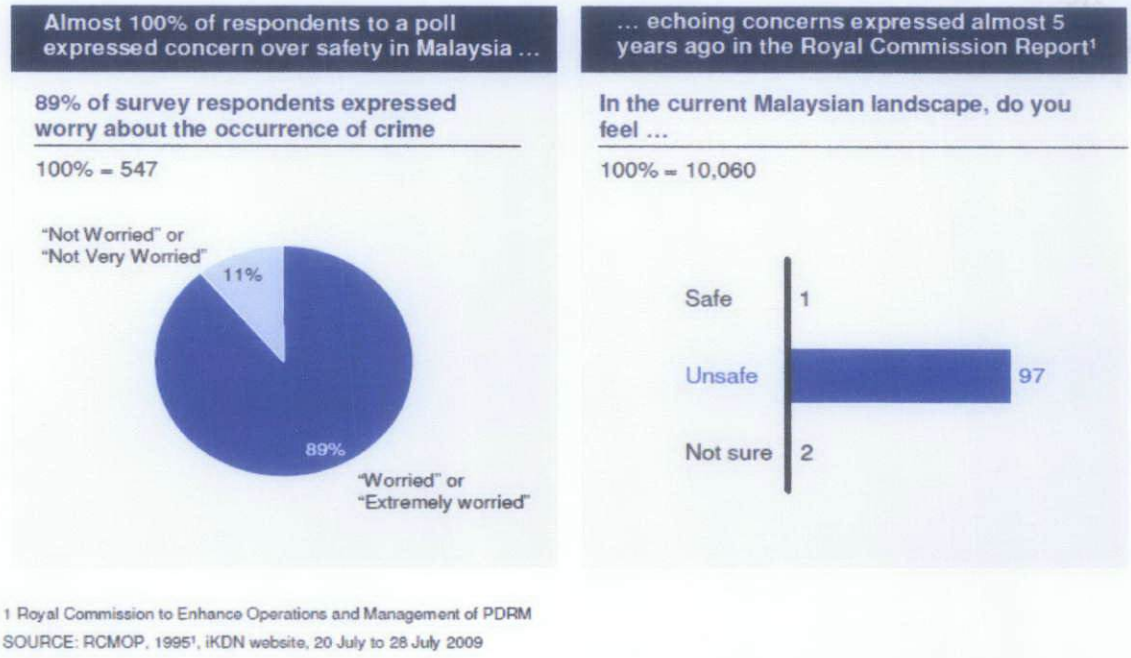

Figure 1.3: Survey on Concern over Safety in Malaysia

In addition, studies conducted by Royal Malaysian Police Force (RMPF) found out that there are 4 states that are having the most highest crime rate in Malaysia which are Kuala Lumpur, followed by Penang, Johor and last but not least Selangor. All four states contribute to **79%** of crime rate in Malaysia for year 2010.

Therefore, it is crucial for us as a Malaysian to act together with police to fight crimes as community loyalty is essentially a long-lasting relationship between community and police to make Malaysia as a safe country. This statement can be supported by Deputy Prime Minister, Tan Sri Muhyiddin Yassin (July,2009), " in fighting crime, we can deploy policemen in crime hotspots but there should also be ways for the public to fight crime together" [5].

ii) Large Rakan COP membership is not beneficial if there is no QUALITY interaction.

Adapted from an article in Star Online entitled *"A quarter of Rakan Cop members nationwide are in Perak"(November 16th,2010),* [6]. Supported by Tuan Syed Mohd Noor (2011), this statistic can be proven by, up to 19th April 2011, total number of registered as Rakan COP members nationwide are approximately 400,000 members which out of it, 106,413 are Perak's Rakan COP members, which is **26.6%** from the total registered member nationwide [7].

Table 1.1 and Figure 1.4 illustrate the statistic of Rakan COP members in Malaysia.

State	Members	Percentage
Perak	106,413	27 %
Kuala Lumpur	89,756	22%
Selangor	58,185	15%
Johor	39,950	10%
Penang	15,581	4%
Others	90115	23%
TOTAL	*400,000*	*100%*

Table 1.1: Rakan COP Members over the States

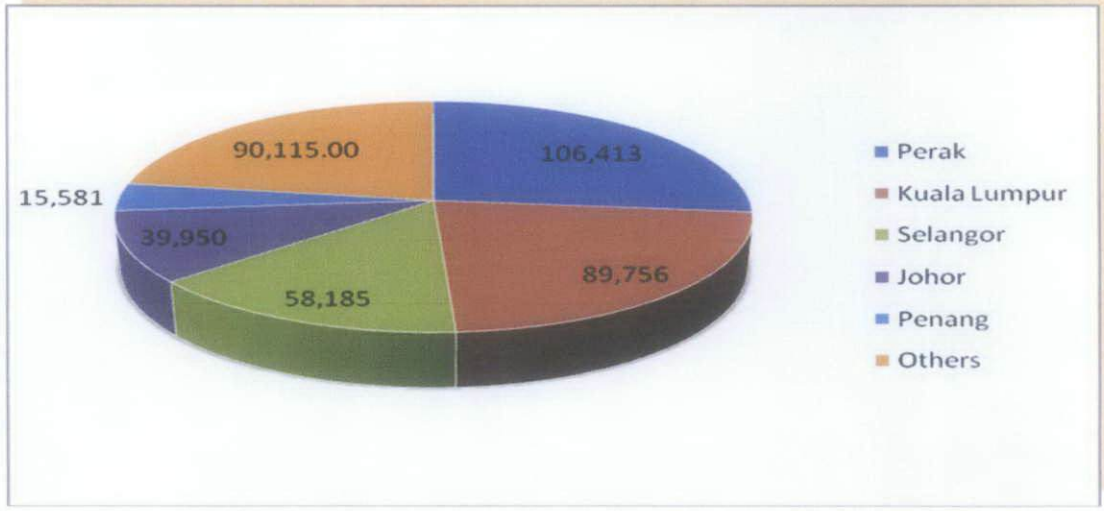

Figure 1.4: Rakan COP Member Statistic

Moreover, according to Elina Arrifin (personal interview, March 10th, 2011), members of **Kuala Lumpur** Rakan COP are the most active in providing **QUALITY** crime related information to the police compared to other states[8]." Therefore, it is important to ensure all members of Rakan COP are actively participating in the program in order to meet one of the Rakan COP objectives which are to fight crime in Malaysia.

1.2. 2 Significant of the Project

The solution to the mentioned problems above is by doing research on how to enhance sense of responsibility among the community by implementing Rakan COP Reward Program. Besides that, the community loyalty is essentially a long-lasting relationship between community and police to make Malaysia a safe country. In addition, the authors also have enhanced the features and functionalities of the current Information Management and Monitoring System (IMMS) that supporting the Rakan COP Program in order to come out with user friendly system for the police officer.

1.3 Objectives

i) The reward system can be use as a support for National Key Result Area (NKRA) under crime category.

ii) To build loyalty and enhance community participation to inform the police on crime cases.

1.4 Scope of Study

In this section, it defines the boundaries of this system in which the development is to be studied, analyzed, designed, implemented and finally improved. The main scopes are as follows:

- **Enhance and improve current Rakan COP Program**
  - To enhance the features and functionalities of current IMMS.
  - To maximize the effectiveness of existing program by promoting rewards to the member who inform the police on any crime related cases.

- **Target User:**
  - **Police :** IMMS web based application
  - **General Public:** Interactive Menu Based Application for reward checking.

- **For future enhancement, this program is focusing on:**
  - Interactive menu driven application to check points earned.
  - Low cost program implementation.

1.5 Feasibility of the Project

1.5.1 Technical Feasibility

Technical feasibility of the project involves familiarity of the application/technology, project size and compatibility. The list and assumption of each aspect is listed in Table 1.2.

ASPECT	RISK	ASSUMPTION
Familiarity of the application/technology	Low	The requirement of the system is in order to get point (reward), one's must register as a Rakan COP member.
Project Size	Moderate	The system resulted at the end of this project will be simulation of the prototype on how the system works. The scope/range of the prototype limited to some extent.
Compatibility	Moderate	The system is dealing with hardware and software such as mobile phone, GSM Modem, Ozeki SMS Gateway, PHP and WAMPP database software.

Table 1.2 : Technical Feasibility

1.5.2 Time Feasibility

Time feasibility can be assume to be at moderate risk as the system need to be implemented similar to the current IMMS to add the additional features and function such as reward section in the system.

1.5.3 Economy Feasibility

For this system, the development of the prototype requires some costs since in order to perform testing for SMS IN and SMS OUT, it requires the author to have sufficient credit limit in the SIMCARD.

For software, the author is using freeware such as Ozeki NG SMS Gateway (trial version), WAMPP, Dreamweaver and some other related software. In addition, the hardware used is GSM Modem (D-Link DWM-652), author's personal laptop, SIMCARD (maxis), and some other personal belongings.

This program benefits both parties which are the Police and General Public satisfaction who is the Rakan COP members. However, the real development of the system cost could not be determined at this stage as the real implementation need to consider wider scope of research element compared to the prototype.

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CHAPTER 2

2.0 LITERATURE REVIEW

2.1 Short Messaging Services (SMS)

SMS is the capability to send and receive text messages to and from other mobile telephones. The first short messages were successfully sent in December 1992 from a Personal Computer (PC) to a mobile phone on the Vodafone network in the United Kingdom. As mentioned above, SMS is a network function used for sending text messages to and from other Mobile Station (MS) [9]. It has been operational since 1992 and nowadays, it is the most successful wireless service as it holds an important position among modern communication method.

2.1.1 SMS Basic Features

According to Bodic, G.L [10] SMS contain some basic features such as message sending, message delivery, status reports, reply path and validity period. Below are the explanations for each point.

i) Message Sending :

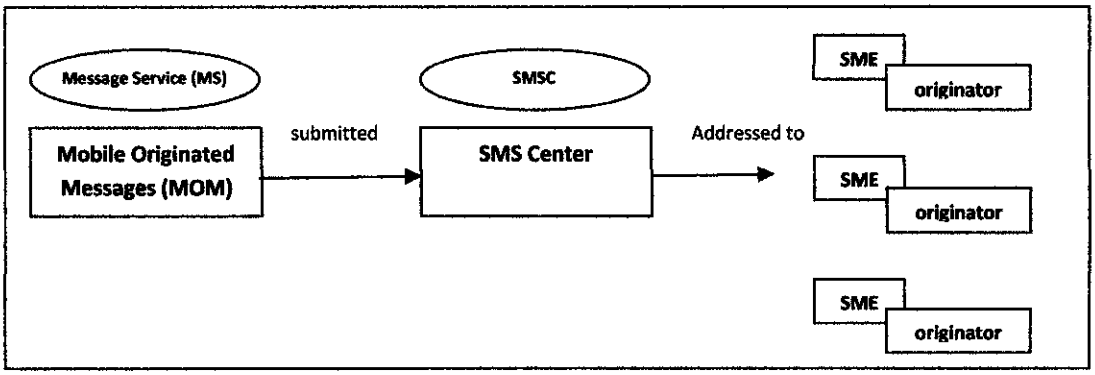

Figure 2.0: Message Sending Procedure

Figure 2.0 illustrate on how the process of message sending:

a) MOM are messages that are submitted from MS to Short Message Service Center (SMSC).

b) The messages (MOM) are addressed to other Short Message Entities (SME) which is the element that can send or receive short messages. Examples of SME are mobile users or internet host.

c) The originator of SME will identify the validity period whether the messages sent are valid or not.

d) If the message is invalid, SMSC will delete the message during the transfer process.

ii) Message Delivery :

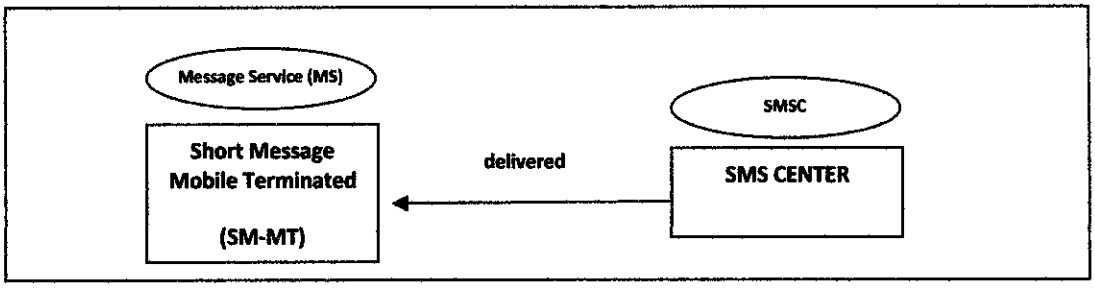

Figure 2.1: Message Delivery Procedure

Figure 2.1 illustrate on how the message are delivered

a) SM-MT is message delivered from SMSC to MS.

b) SM-MT can be delivered and submitted while the user is on the line (voice call) or data connection is processing. Messages can be sent or received over GSM signaling channel but also Global System for Mobile communications (GPRS) channel.

iii)Status Report :

Upon delivery of the message to the recipient SME, the SME originator can request the status report to indicate that the message is successfully delivered or not.

iv) Reply Path :

The originator of SME is capable of setting the reply path to notify that the serving SMSC is able and ready to directly control a reply from the recipient SME in response to the original message.

v) Validity Period:

Validity period can also know as time limit after which the message content is to be deleted. The network usually will discard the message if the message failed to be delivered within the range of time allocated [10].

2.1.2 Sending and Receiving SMS from applications

As most of us known, SMS is broadly used from mobile to mobile and for personal communications. But it is also good to know that SMS also provide enabler for third party service also known as Business to Customer (B2C).

As mentioned by Zuidweg [11], in B2C services, there are three types of application in the service. Below is the list of types with an example as well.

a) Either receive or process an incoming SMS from a user

Example: A vote

b) *Send an SMS to a user*

Example: An alert

c) Both in 2.1.2 a) and 2.1.2 b)

Example: A request for information

He also stated that, there are two ways that an application can send and receive short messages which are over the air interface or through the SMSC.

i) Sending and Receiving SMS via the interface.

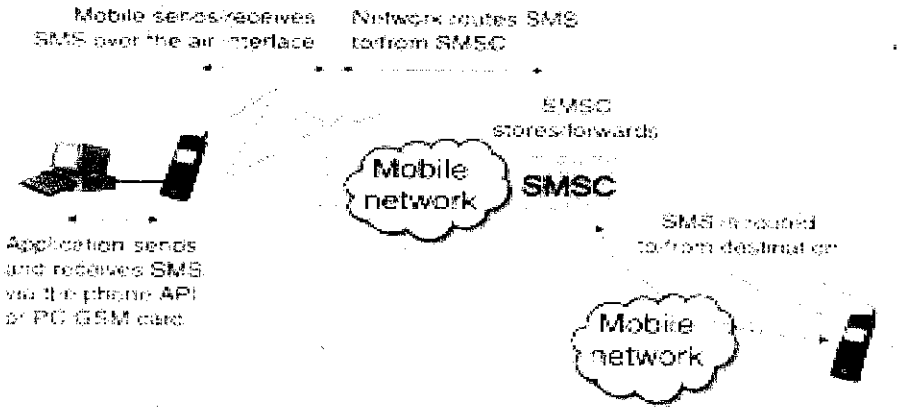

Figure 2.2: Sending and Receiving SMS via the interface

As illustrated in Figure 2.2, in order to use the air interface to send and receive short messages the application server is required to be linked to a mobile terminal with a legal/valid subscription (SIM) or to have a GSM card. The air interface enforces a strict limit on the capacity to send and receive short messages. Using air interface is not the best option for the business application as the organization requires sending a bulk of SMS and the interface imposes a strict limit on the capacity to send and receive short messages and will be costly to the organization as each messages are set by GSM subscription.

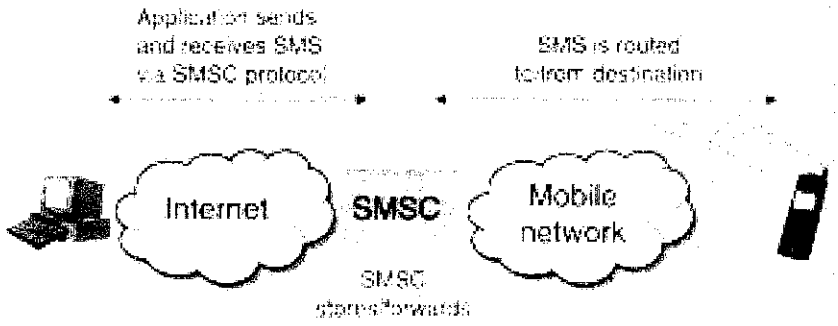

Figure 2.3: Sending and Receiving SMS via the SMSC

ii) Sending and Receiving SMS via the SMSC.

An agreement with mobile network operator is required in order to receive messages through and SMSC. As illustrated in Figure 11, in order to connect with the SMSC, several protocols are required. There are 4 protocols that are used in the industry.

a) Short Message Protocol
b) Universal Computer Protocol/External Machine Interface (UCP/EMI)
c) Computer Interface to Message Distribution (CIMD)
d) SMS-2000

Besides all 4 protocols, there are also third party companies that offer SMS gateway available through the Internet. These gateways permit SMS to be sent and received via email, HTTP GET requests or Web forms. They make combination with applications much easier and abolish the need of establishing an agreement or taking a subscription with a mobile network operator [11].

In the last few years, SMS (Short Message Service) has made a big impact on the way we communicate. Instead of communicating over the phone using voice, people rather prefer SMS not only for messaging but also for information exchange.

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2.2 Rakan COP Community Program vs Rakan COP Reward Program

2.2.1 Rakan COP Community Program (Current Program Flow)

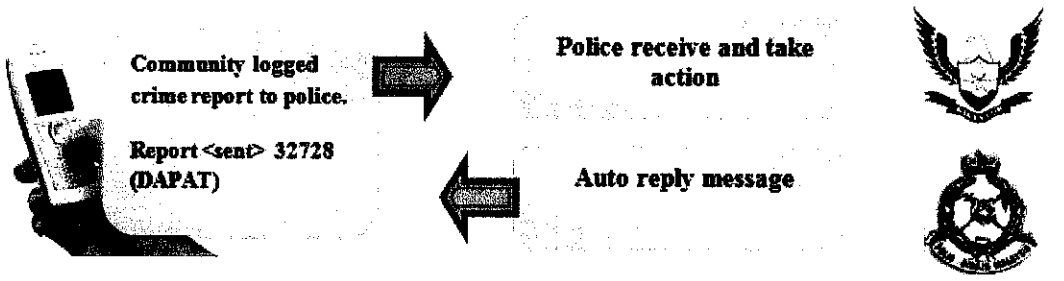

Figure 2.4: Current Rakan COP Program Flow

a) When the community logged report regarding crime cases through DAPAT, the message will go into the system and the police officer on duty will forward the report to the respective police station to take action.
b) Once the police officer receives the report, they will send auto reply to acknowledge the sender that the report is received and action taken towards the report.
c) Sender will receive auto reply message from the police.

2.2.2 Rakan COP Royalty Program (Enhance Program Flow)

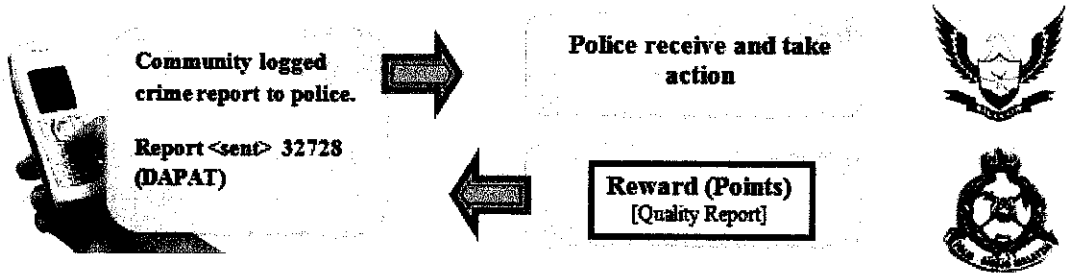

Figure 2.5: Enhanced Rakan COP Program Flow

The process flow for Rakan COP Reward Program is similar with the current program with additional reward section in the system.

a) When the sender logged quality report that related to crime to DAPAT, he/she will be awarded points based on the seriousness of the case.
b) Members can redeem their point at selected redemption counter based on terms and conditions apply.

2.3 PHP: HyperText Preprocessor

PHP is known as "PHP:HyperText Preprocessor". It is a server-side scripting language that is usually written in an HTML context. PHP is not like the ordinary HTML page. It does not sent script directly to a client by the server, instead it is parsed by the PHP binary or module, which is server-side installed.

PHP code can query database, read and write files, create image and communicate with remote servers. Apache and MySQL are supported by PHP. Apache is now the most used web-server in the world, while MySQL is a powerful free SQL database. PHP provides a complete set of functions for working with it. It also supports an extensive list of databases and web-servers.

This system will be using PHP as the tools that act as a platform to develop the system interface and to insert programming code in order to make the system function. PHP is an open source product. It is well supported by a talented production team and a committed user community. Furthermore, PHP can be run on all the major operating systems with most servers.

PHP allows user to separate the HTML code from scripted elements. Therefore, it will speed up the development process. In addition, it is easy to use and can remove obstacles that stand in the way of effective and flexible design. Well maintained open source projects offer users additional benefits. Chances to any problem a person may encounter in his/her coding can be answered quickly and easily with a little research. If that fails, a question sent to mailing list or forum can have an intelligent, authoritative response.

2.4 System using similar application

2.4.1 Telco company such as Maxis, Celcom and Digi

Most of the Telco Company in Malaysia provides "virtual" rewards for their prepaid customer in order to have a good long lasting relationship. The rewards are based on points and given to the customer who is active using the service; for example every time customer top up their prepaid credit, they will earn points or discount on airtime or SMS as a reward. In addition, when their call time exceeds certain limits, they also entitled to redeem their reward accumulated points for airtime or SMS.

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CHAPTER 3

3.0 METHODOLOGY

3.1 Research Methodology

The author had decided to use prototyping methodology. This methodology is the best method as the analysis, testing and implementation stage/phase move concurrently and continually in the cycle until the system is completed. Using this method, analysis and design phase are performed and immediate work starts on the system prototype. The earliest prototype provide minimal amount of features and it is the first part that will be used by the author as the guideline of the project. The prototype then grows into the final stage. Figure 3.0 shows the Prototyping Methodology.

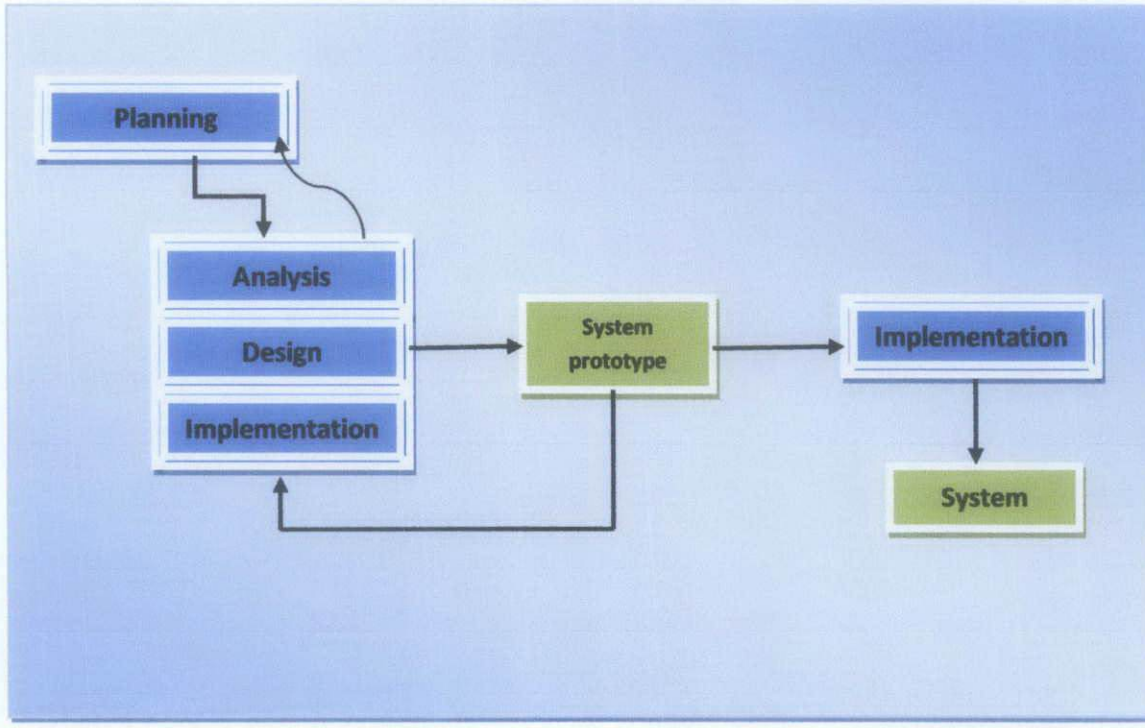

Figure 3.0: Prototyping Methodology

3.1.1 Planning Phase

In the planning phase, the system concept was developed to describe how the system will operate once it is implemented. Furthermore, it is to assess how the system will give an impact to end users while performing their daily activities and it is important to ensure that the system will provide the required capability on-time and within budget, project resources, activities, schedules, and tools.

All activities are planned according to the time line. This phase ensured that all activities are done within the specified time. The result for this phase is the milestone of activities (Kindly refer **Key Milestone** table 3.0). The purpose of setting the key milestone is to ensure the author had planned to meet the due date with all or most of the requirement in the system.

PROJECT MILESTONES (FYP2)	DATE	WEEK
Submission of Dissertation	9th August 2011	12
VIVA – Oral Presentation	19th August 2011	13
Technical Report Submission- Final Dissertation	24th August 2011	14

Table 3.0: Key Milestone

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3.1.2 Analysis Phase

In the analysis phase, the author had collected most of the requirements needed. The project starts with research to understand the overall process of the system. It started with a brief research on the project to get a rough idea of the system. Then more detail research is conducted on the current system. The analysis start by defining the scope of the system, boundary of system, input and output process, and type of hardware and tools that is used in developing the system. After identifying all the elements, the design process starts.

The author had been given chance to visit the Selangor's Rakan Cop operation room located in Ibu Pejabat Polis Kontinjen Selangor (IPK Selangor), Shah Alam and had been explain by Chief Inspector Syed Mohd Noor, Crisis Coordinating Officer on how the program works and shows how the police officers handling the incoming report from the Selangor community especially from Rakan Cop members.

Essentially, the purpose of this phase is to identify data, process, and interface requirements for the users of the proposed system. The system was defined in more detail with regard to system inputs, processes, outputs, and interfaces. The emphasis in this phase is on determining what functions must be performed rather than how to perform those functions.

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Information management and monitoring system – RakanCOP

-All incoming information - SMS, email, MMS **[CURRENT PROGRAM]**

SMS IN	**SENDER'S INFORMATION**	**REPORT**	**ACTION**	**SUCCESS**	
TIME [1]	NICKNAME , ID & MOBILE NO.) [2]	DROP DOWN MENU OPTION [3] MESSAGE [7] TIME [1]	AUTO REPLY MESSAGE [4] DATE/TIME [5] MESSAGE [6]	-WHICH IPD/IPK [7] - OFFICER ON DUTY [7] MESSAGE [6] DATE/TIME [5] ACTION TAKEN [7]	BUTTON [8] FORWARD ETC.
Example: **KL414-141** 10/08/2009 01:16:38 AM	***Example:*** *Private & Confidential* +6012345XXXX *Private & Confidential*	***Example:*** Aduan Maklumat Lain-Lain **POLIS SEL** WPX XX71 melarikan diri dari sekatan jalan oleh pihak polis di sungai	***Example:*** **Auto reply [date/time]** RM0.00 POLIS: Terima Kasih kerana menghantar maklumat melalui RakanCop.Rujukan penghantaran sms aduan ke RakanCop kini percuma	***Example:*** **[IPD SUBANG JAYA, L/KPL 319228 VERAPPAN A/L SUPOYAN] [10/04/2009 0401:48:38 AM]** TELAH ARAHKAN NPV .....JIKA TERJUMPA KENDERAAN TERSEBUT..... **-MASA TINDAKAN** **-OLEH (L/KPL ....)**	***Example:*** Forward msg to IPK Forward msg to IPD Reply message to sender Take Action Etc..

 # Example given is based on the actual information obtained which is in Bahasa Melayu format.

Figure 3.1: Current Rakan COP Information Management & Monitoring System

Foot Note:

1. Time for every SMS IN is recorded. Most of the columns keep track of the time in order to ensure the Police Officer act on the report immediately.

2. Second column shows the sender information and can directly identify whether the sender is a RakanCop member or not. Sender nickname (if RakanCop member), ID and mobile number and will be appear on the screen.

3. Drop Down Menu Option. The police officer will manually categorize the report sent by the community whether it falls in Report category or others.

4. The Police Officer who handles the report will take action accordingly based on the report logged and will send Auto reply message to the sender. Auto Reply message will be send to the sender to inform them that their report/message has been received and being investigate by the Officer.

5. Date and time will be recorded in 4^{th} and 5^{th} column. The function is similar with 1 , only different is date is added in the column. It is crucial to record the time in every action taken so that the Officer on duty will act efficiently.

6. Message content for REPORT column is retrieved from the sender while message content for ACTION and SUCCESS column is filled by the Officer.

7. In success column contain which IPK/IPD and Officer on duty in charged and action taken by the Officer.

8. The last column contains multiple button/link for the Officer to forward the message to respective Police station/Police Officer. There are also other functionalities provided for example; radio button (to broadcast the case to media depending on the seriousness of the case).

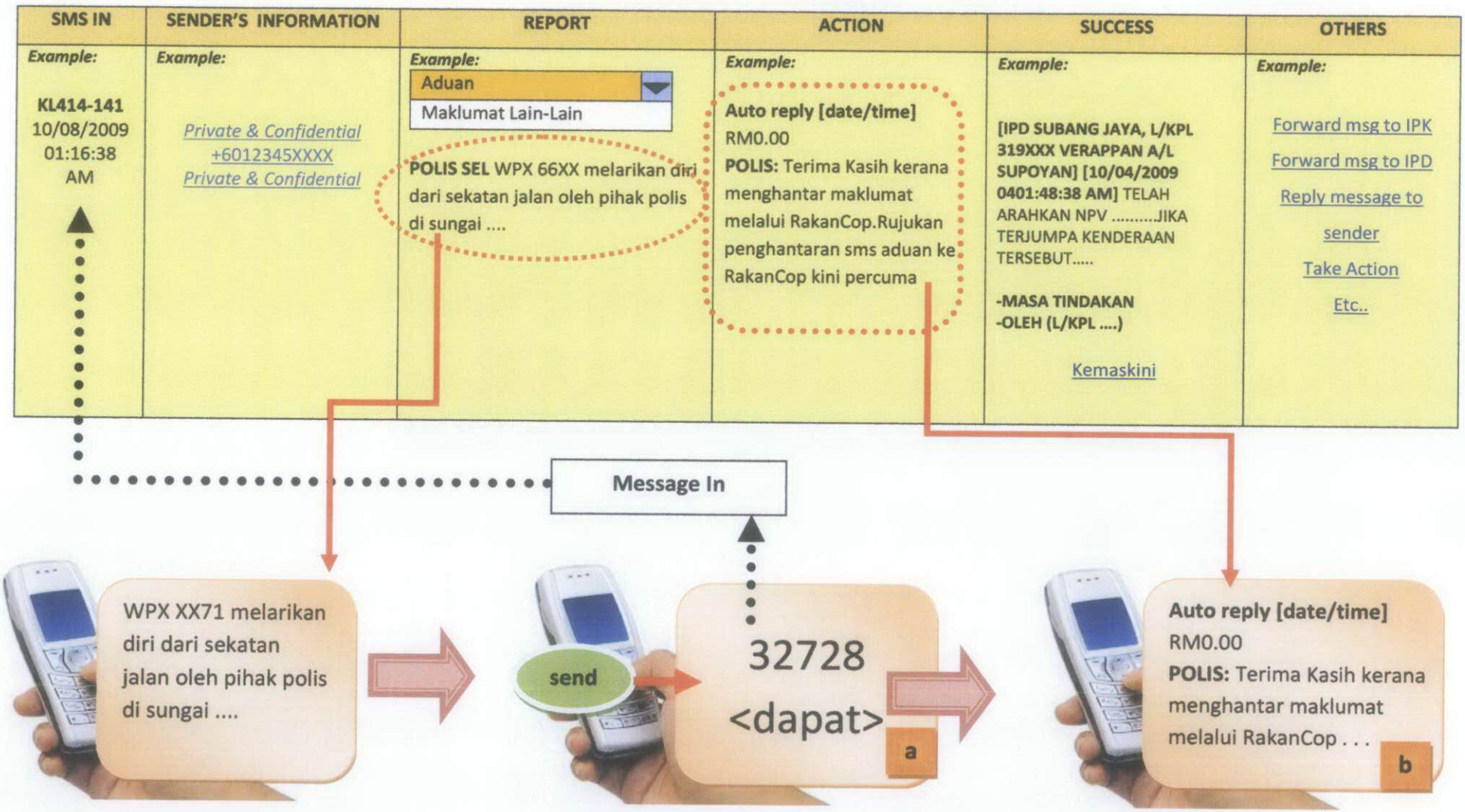

Figure 3.2: How Rakan COP Program Works

3.1.3 Design Phase

In order to proceed with the design phase, the author will starts with design of the architecture. The architecture design process is process of designing the platform or tool that will be use for the development of the system. The important part of this process is to set up the working architecture so that it can be functioning well and as expected. In this phase, the basics of design are performed and work immediately begins on a system prototype, also known as "quick-and-dirty" program that provides a minimal amount of features.

➔ ***Tools and Equipment Required***

Tools and equipment required in this project are divided into software and hardware used in the system. Most of the tools are appropriate to be used in the prototype and are all open sources.

	TOOLS
HARDWARE	GSM MODEM : D-LINK DWM-652 3.2G Express Card with SIM Card attached
	Personal Computer/ Laptop
SOFTWARE	Ozeki NG SMS Gateway
	mysql-connector-odbc-5.1.8-winx64
	mySql Server,WAMPP

Table 3.1: Tools Required

The actual implementation of the system might need more sophisticated tools.

3.1.4 Implementation Phase

In implementation phase, the author needs to refine in detail the high level architecture and logical design to support the system and functional requirements. The author will construct a logical model that describes the fundamental processes and data needed to support the system functionality.

This logical model will show how processes interact and how processes create and use data. Function and entity types contained in the logical design were extended and refined from those provided in the planning phase. The author also will conduct a detailed analysis of the current technical architecture, application software, and data to ensure that limitations or unique requirements have not been overlooked.

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CHAPTER 4

4.0 RESULT & DISCUSSION

4.1 System Architecture

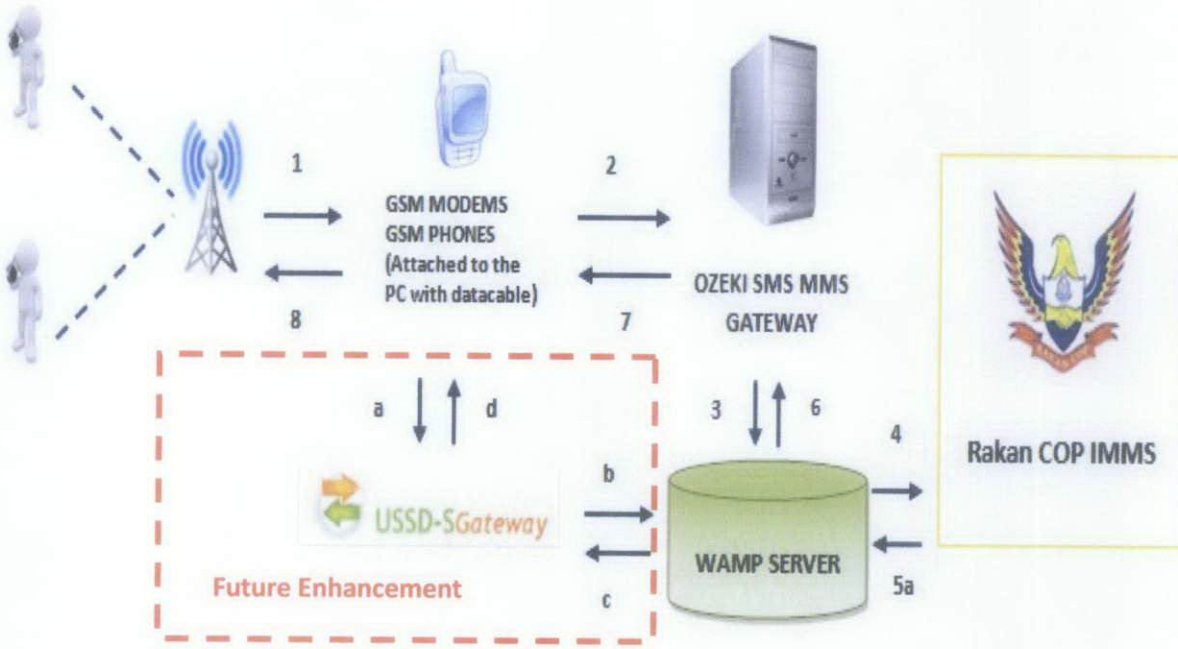

Figure 4.0: Rakan COP Reward Program System Architecture

 # Assume: User1 = General Public; User2=Police Officer

In this system, User1 will send report (SMS) via their mobile to log report related to crime. A GSM Modems is attached to PC in order to communicate with the Ozeki SMS/MMS Gateway. The Ozeki SMS/MMS Gateway act as the gateway application to send or receive SMS/MMS messages to and from mobile devices with computer. The server will send report logged to the database (WAMP server) and at the same time will update the Rakan COP IMMS portal. Once the report enter the IMMS, User2 will handle the report until the process of giving rewards to the User1 (if the report is Quality) and the IMMS will be updated again and reward message is sent to the User1 through Ozeki SMS/MMS Gateway. For process **a to d** it is future enhancement in this program that will be implemented in order to make the Reward Program more interactive.

Brief description of the architecture entities is explained at Table 4.0 below:

ENTITY	DESCRIPTION
Rakan COP Information Monitoring and Management System (IMMS)	This system requires user interface where User2 (police) will interact with the IMMS by sending reward message to the sender who logged quality report to the police. Database will be updated and text messages will be transmitted through overlaid GSM Networks.
GSM Modem	GSM Modem with SIM card attached receives the text messages that is sent by the user and passes the messages to the server. GSM modem and server are connected through Phone-to-PC data cable.
OZEKI SMS/MMS Gateway	SMS Gateway acts as an interface between GSM Modem and the server itself. This gateway will convert the messages from PDU into text mode and stores the messages into the database. For this system, the developer is using Ozeki SMS/MMS Gateway which is available as freeware.
PHP Programs	PHP programs do all processes to complete the whole cycle of the system from message retrieval to sending the SMS to the user.
Database	The database stores all required information that can be manipulated from any programs using SQL statements.

Table 4.0: Architecture Entities Description

4.1 System Prototype

4.1.1. Rakan Cop Reward Program [IMMS]

4.1.1.1 Login Page: Police officer on duty need to login using their ID & password.

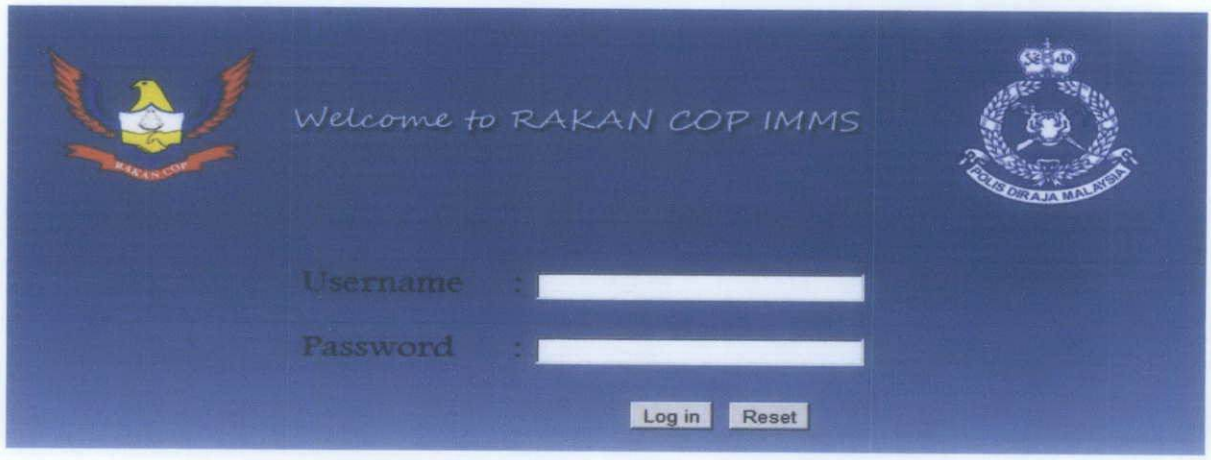

Figure 4.1: Login Page

4.1.1.2 Main Page

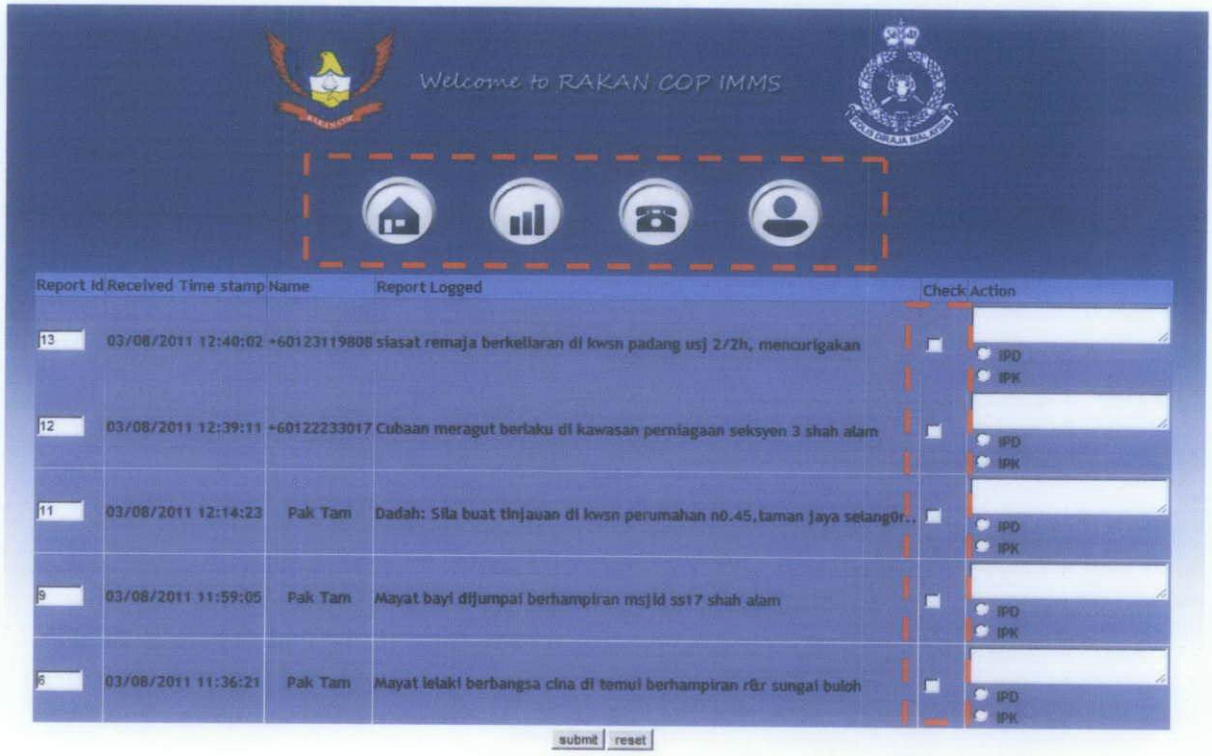

Figure 4.2: Main Page

Main page contains all reports send to police from the general public. Besides that, in the IMMS main page also, the developer had come out with new design and interfaces where the developer is using icon and eliminate multiple links and button in the system. The developer also had simplified the system functionalities and develops the functionalities based on the project scope as there are certain limitations in this project. Lastly, the developer also had added checkbox features in Check row where police officer can send more than 1 report in a time.

4.1.1.3 Report Status Page [Main Contribution]

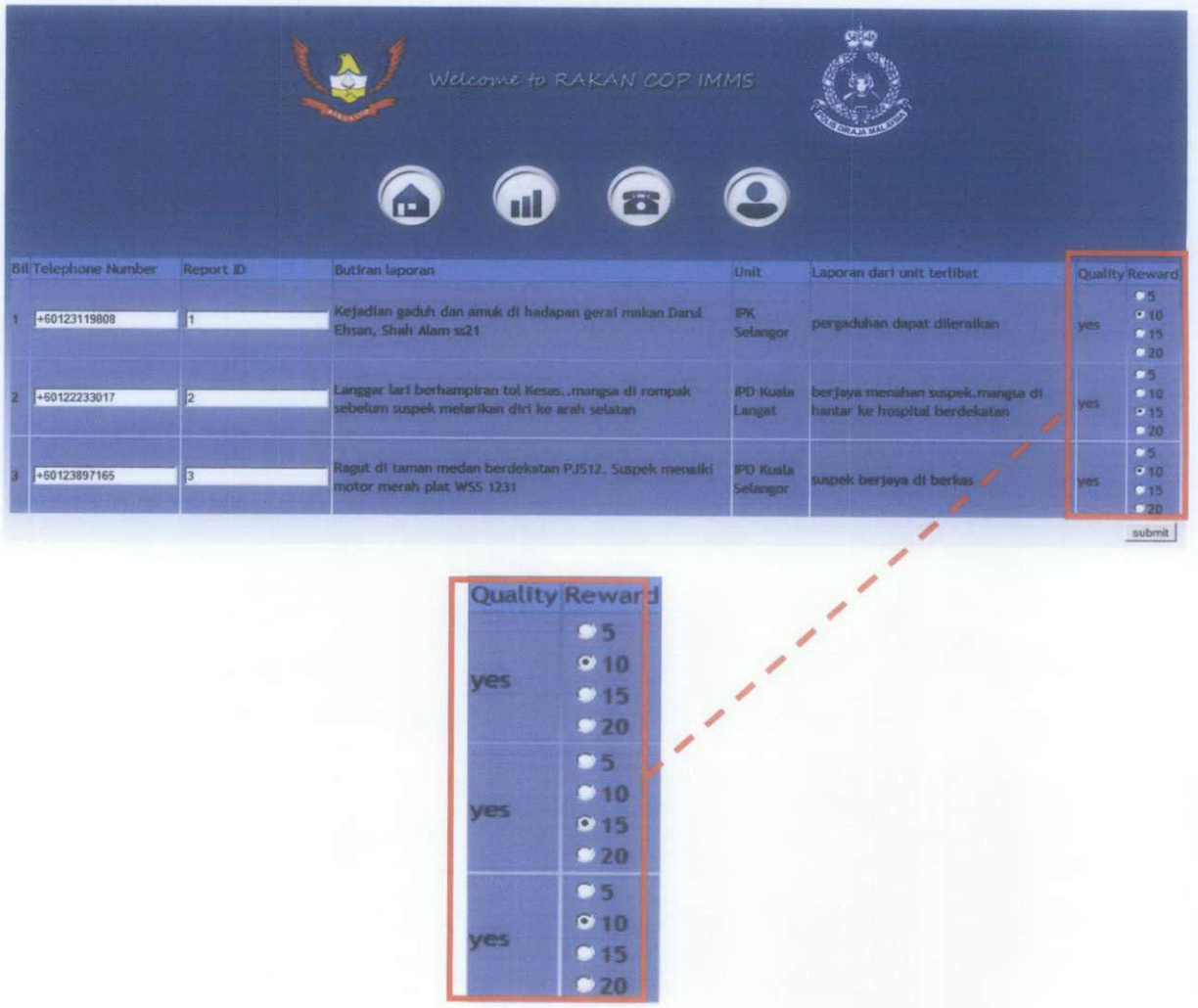

Figure 4.3: Status Page

In status page, this is where all quality messages will be rewarded by the police officers based on the seriousness of the case. In this section also, the police officer will assign how many points the owner of every quality message will earn based on the manual and guidelines stated. Once assigned, the report sender will get message from the IMMS to inform that they have earned points.

4.1.1.4 Contact Page

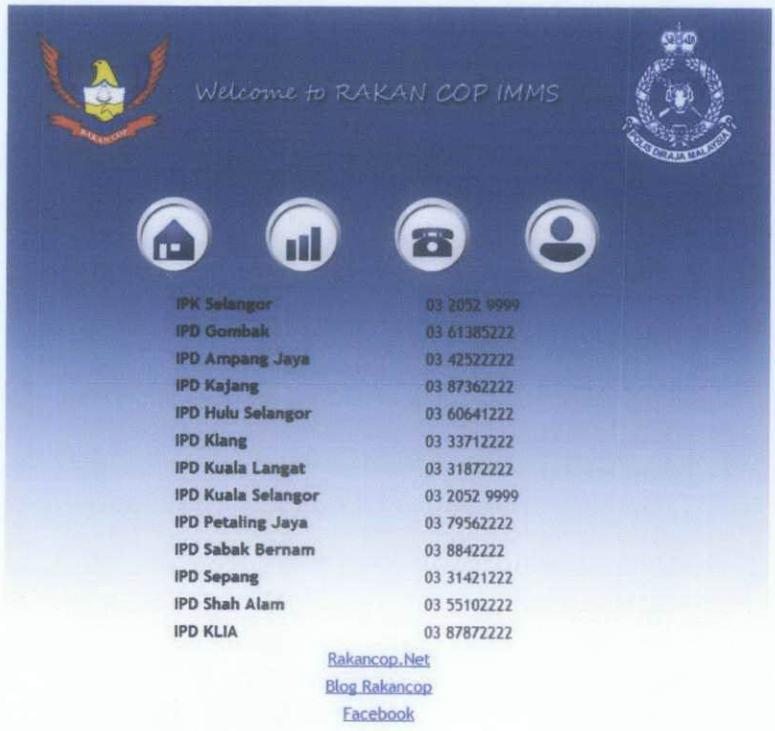

Figure 4.4: Contact Page

This page contains all the Ibupejabat Polis Daerah and IbuPejabat Polis Kontinjen Selangor contact number and Rakan COP website URL for Rakan COP Activity updates.

4.1.1.5 Rakan COP Info Page

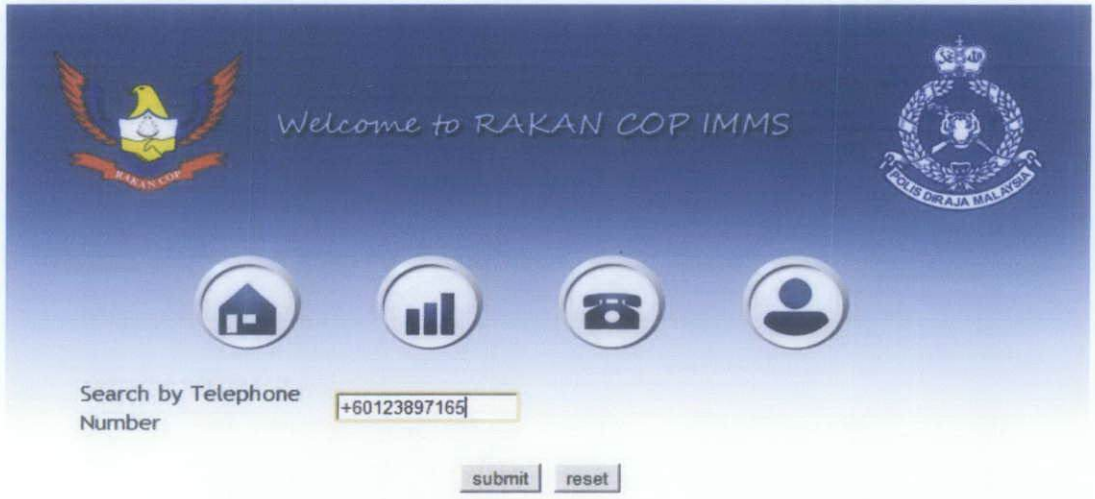

Figure 4.5: Rakan COP Member Info

This page enables the police to check Rakan COP member details for police officer reference and record.

4.1.2 General Public Participate in Rakan COP Reward Program

4.1.2.1 General public log report related to crime to police.

Figure 4.6: Log Report

When the general public sends report to the police through Rakan COP Reward Program, the report will enter the IMMS and police will take action on the report. If the report helps police to reveal any cases, then the sender will be rewarded with certain points based on procedure stated.

4.1.1.2 Quality report, rewarded points!

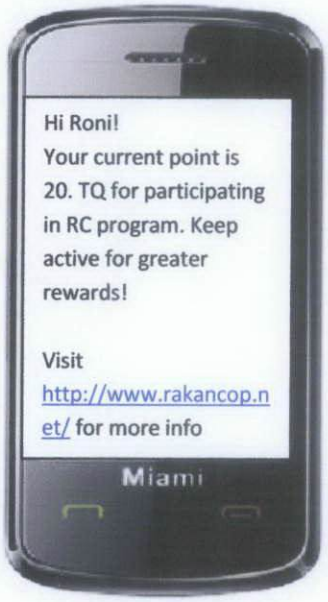

Figure 4.7: Reward Message

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CHAPTER 5

5.0 RECOMMENDATION & CONCLUSION

5.1 Recommendation

For expansion and continuation of the project, the author suggested implementing interactive menu based application using Unstructured Supplementary Service Data [USSD] method for the Rakan COP members to check their reward through their mobile phone in easy and faster way besides it is cost free. The author also believed that by using this method, it can enhance community interaction and give them a good user experience in joining Rakan COP Reward Program.

Figure 5.0 shows how the USSD method works in Rakan COP Reward Program:

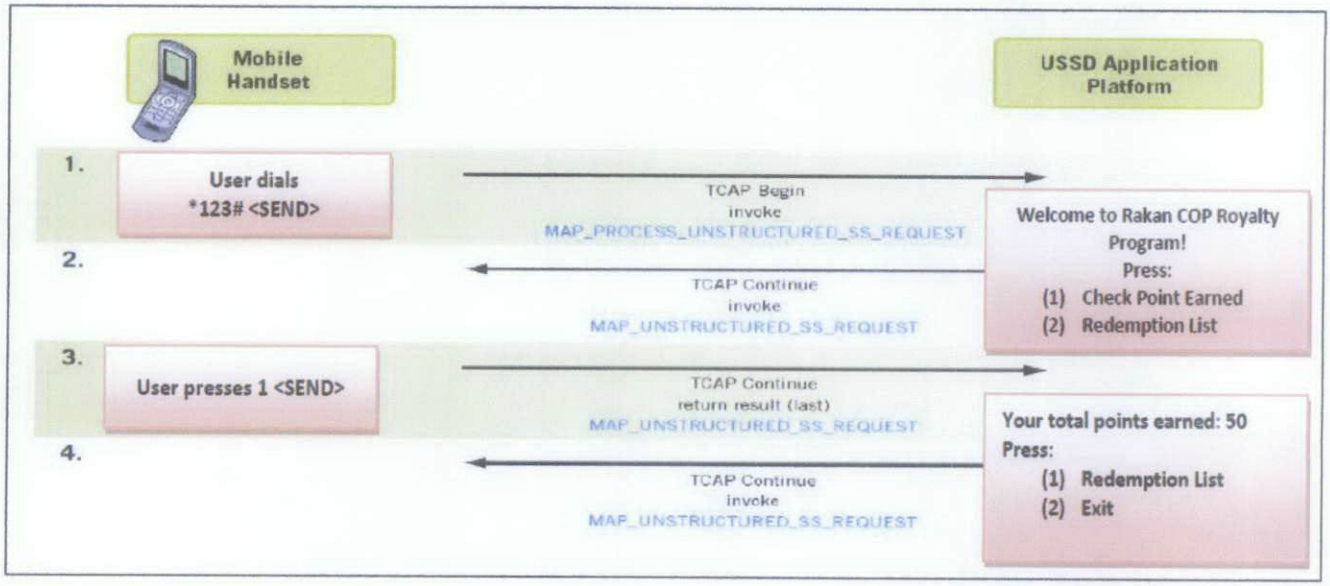


Figure 5.0: USSD Method in Rakan COP Reward Program

5.1.1 Prototype of Rakan COP Interactive Menu Based Application Using USSD

This section will illustrate how the interactive menu based application using USSD method can be implemented in Rakan COP Reward Program [12]:

1. User dials USSD string for example *123# to initiate the USSD service.
2. The USSD application platform receives the request to initiate a USSD service from the mobile user. The platform determines the specific USSD service requested by checking the USSD string dialled. Welcome page send to the user.
3. User response to the service they wanted.
4. USSD platform return the result.

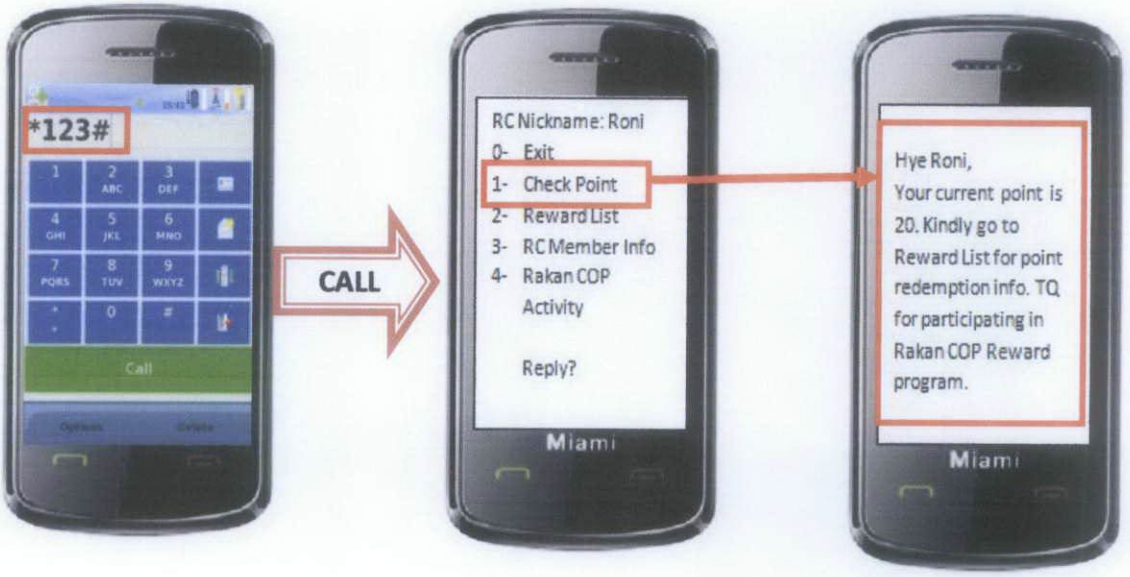


Figure 5.1: User press 1 (Check Point)

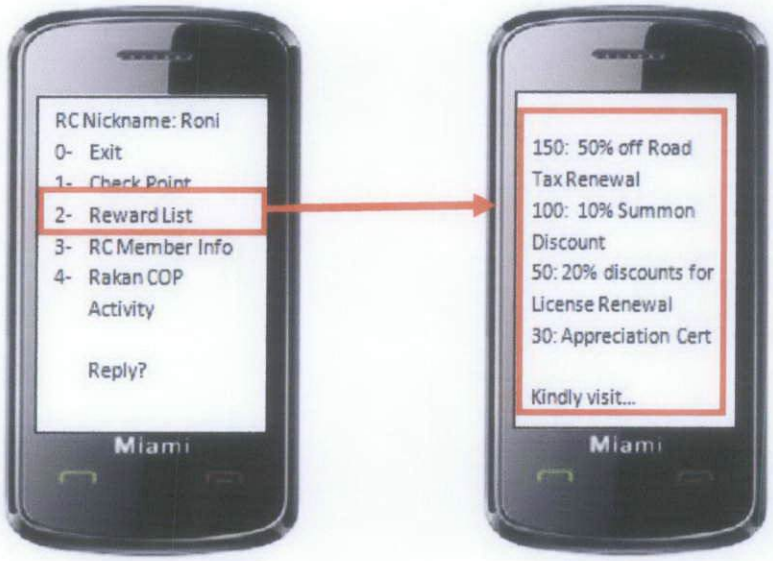


Figure 5.2: User press 2 (Reward List)

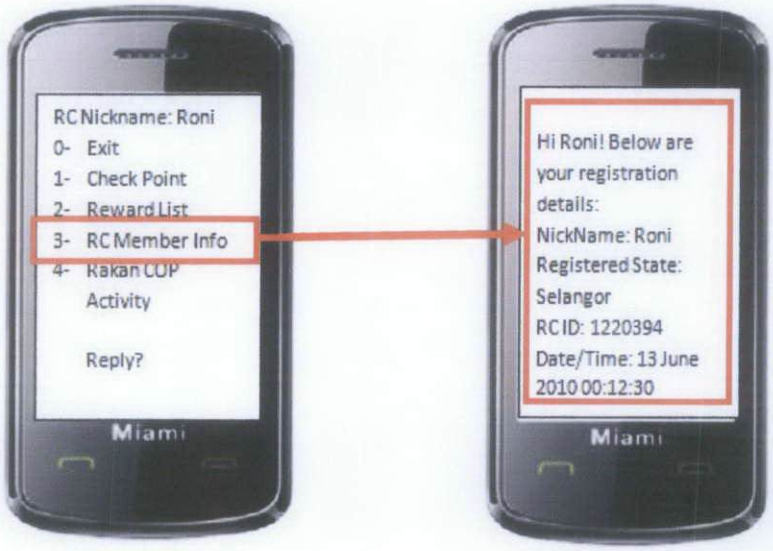


Figure 5.3: User press 2 (RC Member Info)

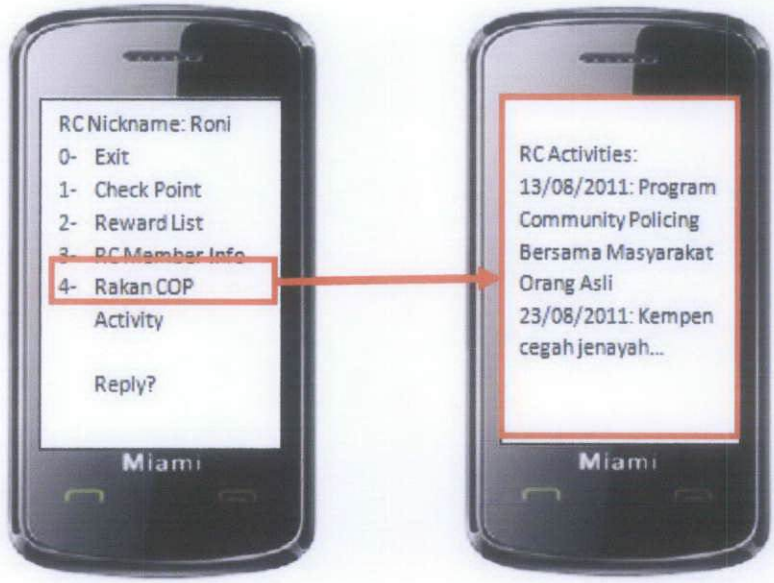


Figure 5.4: User press 1 (Rakan COP Activity)

5.1.2 Unstructured Segmentation Supplementary Data (USSD)

After several consideration which concept need to be used in order to implement the Royalty Program, the author had come out with a solution that is cost effective, both for the service provider and the user which is to use USSD technology. USSD is an ability built into Global System for Mobile Communications (GSM) phones, much like the Short Message Service (SMS). Below are some others information that can support the Royalty Program implementation using USSD [12].

5.1.2.1 Concept

:: Using "**real-time data session**"

USSD is useful for an interactive menu-driven application such as mobile-initiated "Balance Enquiry and Top Up" application [12]. A real-time "session" is started between the mobile user and the USSD application platform when the service is called upon, allowing data to be sent back and forth between the mobile user and the USSD application platform until the USSD service is completed.

5.1.2.2 Conversational Text Services and Easy to use

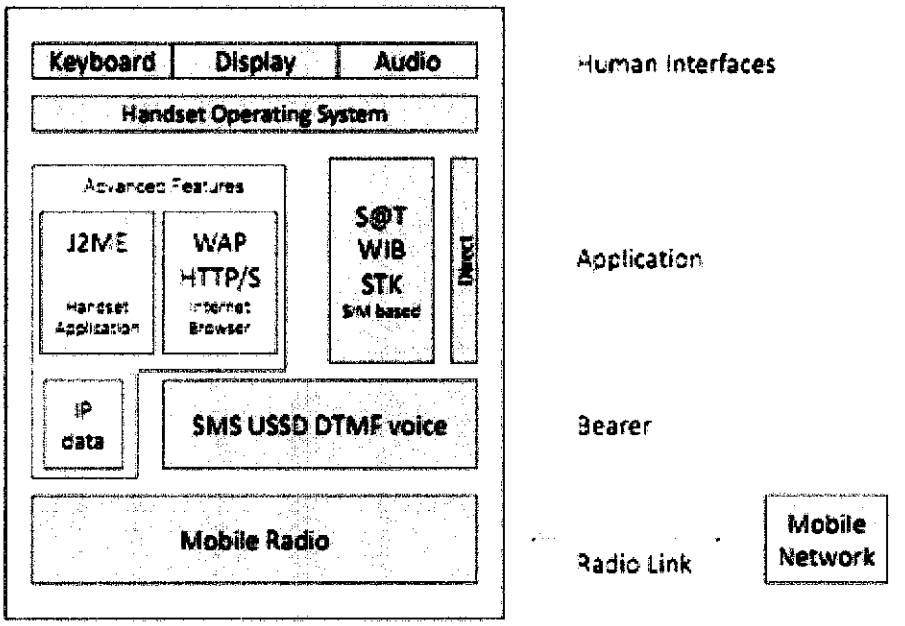
"Conversational" is a situation when the cell phone can start a session, get back and answers with a possible choice, reply to that answer and etc [13]. This can be explained more when the user can enjoy the services by just enter their option and within seconds they will get the reply. As mentioned by Sema (2011), this technology is easy to use as creating and sending a USSD message is as easy as making a call. Indeed, creating a USSD message can be easier than creating a mobile originating short message [14].

5.1.2.3 Compatible to all model of mobile phone

USSD should work on all handsets in the Global System for Mobile Communications (GSM) and 3G world regardless of their age [13]. GSM network is using two separate networks which one for telephone calls (call setup and release) and another one is for signalling, mainly for mobility related messages and for SMS.

The statement also can be supported based on Figure 5.5, adopted from an article entitle "Managing the Risk of Mobile Banking Technologies", mobile device (mobile phone) consist of several layers of components [14].

ELEMENTS OF THE MOBILE PHONE



Standard handsets are "plain vanilla" devices that contain:

- A mobile radio to communicate to the mobile network
- The capability to send Voice, SMS, USSD, and DTMF over the radio interface
- An operating system that ties all the elements on the handset together
- Human interfaces for audio (speaker and microphone), a keyboard and a display

Figure 5.5 : Elements of Mobile Phone

5.1.2.4 Time Taken to Response

Turnaround response times for interactive applications are shorter for USSD than SMS because of the session-based feature of USSD, and because it is NOT a store and forward service"[15].

USSD differs from SMS as follows [12]:

i) SMS uses a "store and forward" technique to deliver text messages.
ii) A text message is first sent to a sender's Short Message Service Center (SMSC) before the SMSC tries to deliver the text message to the recipient.
iii) The sender receives an indication of whether the text was successfully received by the SMSC; however, the text message is not guaranteed to reach the recipient instantly" .

Advantages of using USSD:

- Real-time data session
- Conversational text services and easy to use
- Compatible to all model of mobile phone
- Faster time taken to response compared to SMS
- Low cost of operating using USSD services. Company no need to spend money to cover the cost of every message sent, messages sent are all free. Company only need to cover the cost of implementing the technology.
- Replace/reduce human resource in order to handle request from customers. The service will handle the customer's request.
- Two ways communication. Users can request the information they needed faster and easy.
- Users or customers information are secured.

Disadvantages of using USSD:

- User could not save the message.
- Short time available for each request (If time exceed, the service will terminate automatically)

5.1 Conclusion

The Rakan COP Reward Program prototype was developed to fulfil the above objectives and is now fully conformed to the current IMMS service provider – Dapat Vista (M) Sdn Bhd. The most important thing in this project is to enhance the community participation and to build responsibilities among the community in order to make Malaysia as a safe country.

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Appendix 1.1

Milestone

TASK	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST
Title selection/proposal								
Seminar by Cyber Security Malaysia								
Title Approval								
Research Class #1								
Writing Proposal								
Discussion with Supervisor								
Objective and Problem Refinement								
Identify Scope of Study								
Literature Review								
Identify Equipments								
Research Class #2								
Submission of Extended Proposal								
Formal Interview with staff of Dapat Vista (Rakan Cop service provider)								

VIVA: Proposal Defense and Progress Evaluation								
Follow up with Dapat Vista (M) Sdn Bhd and Supervisor								
Ongoing research and prototype system update								
Interim Report								
Project Development starts -PHP (Rakan COP website) -SQL Connection / Database Running -SMS Gateway Connection								
Submission of Progress Report								
80% system functioning								
Apply USSD application								
Debugging- System Testing								
100% system Functioning								
Deploy for Testing								
Gather Testing Result								
Analysis & Interpreting Results								

Concluding								
Pre-EDX								
Submission of Dissertation								
VIVA – Oral Presentation								
Technical Report Submission- Final Dissertation								

Appendix 1.2

CODE:

Rakan COP Reward Program

Index.php

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />

<link rel="shortcut icon" href="images/rc.ico" />

<title>Rakan Cop</title>

<style type="text/css">

Body {

        background:url(images/Background.jpg);

        background-size:contain;

        background-repeat:repeat-x;

        font-family:"Trebuchet MS", Arial, Helvetica, sans-serif; }

</style></head>

<body><?php

session_start();

if($_SESSION['username'] != "nadiah"){

include "login.php"; } else {

$me = $_SESSION['username'];

echo "<font color='#FFFFFF'>  Hello $me </font>     ";

echo "<font size='-1' color='#FFFFFF'> logout here >> <a href='logout.php' border='0'><img src='images/unlock.png' width='15'></a></font>";

include "menu.html";

require_once "connection/db_rc.php";?>

<?php

 $sql = "SELECT * FROM ozekimessagein ORDER by id DESC";                    //STEP 3: select a table inside the database

 $result = mysql_query($sql, $connection) or die("Couldn't execute query"); //STEP 4: execute the sql statement

 $counter = 0;  // set initial value for counter (record number)

 $numRecord = mysql_numrows($result);

 if ($numRecord <= 0) {

        print("The database is empty<br />\n");  } else { ?>
```

```
<table border="5" align="center">
 <tr bgcolor="#728FCE">
  <td>Report Id</td><td>Received Time stamp</td>  <td>Name</td>
  <td>Report Logged</td>  <td>Check</td>  <td>Action</td>
 </tr> <?php
        while ($myrow = mysql_fetch_row($result)) {              //step 5: extract the returned output in an array
        $counter++;
                $haha=$myrow[1];
                $sql2 = "SELECT * FROM `member` WHERE `mobileNo`=".$haha;
                $result2 = mysql_query($sql2, $connection) or die("Couldn't execute query");
    $counter2 = 0;
    $numRecord2 = mysql_numrows($result2);
                if ($numRecord2 <= 0) {
          $name = $haha;} else {
                while ($myrow2 = mysql_fetch_row($result2)) {
                        $name = $myrow2[1];}
                $_SESSION['$counter'] = $counter;}
                if ($myrow[6]=="No Action Taken"){  ?>
       <tr bgcolor="#737CA1">     <?php
                if (isset($_POST['submit']))  {
                echo $_POST['polis'][$counter];}        ?>
                <form action="<?php echo $_SERVER['PHP_SELF'];?>" method="post">
                <td><input name="id<?php echo $counter; ?>" type="text" value="<?php echo $myrow[0]; ?>"
size="2" /></td>
                <td><?php echo $myrow[5];?></td>
                <td width="100" align="center"><?php echo $name; ?></td>
                <td><?php echo $myrow[3]; ?></td>
                <td><input type="checkbox" name="ckc<?php echo $counter; ?>" /> </td>
                <td><textarea name="tarea<?php echo $counter; ?>"></textarea><br />
                <select name="polis<?php echo $counter; ?>">
                <option value="IPK Selangor">IPK Selangor</option>
                <option value="IPD Ampang Jaya">IPD Ampang Jaya</option>
```

```
                <option value="IPD Gombak">IPD Gombak</option>

                </select><br />

                <input type="submit" name="<?php echo $counter; ?>" value="submit" /></td></form></tr>

                <?php }}?>          <?php       }

echo "<tr><td colspan='7' align='center'><input type='reset' name='reset' value='reset' /></td></tr></table>

"; } ?></body></html>
```

Submitforaction.php

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml"><head>

<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />

<link rel="shortcut icon" href="images/rc.ico" />

<title>Rakan Cop</title>

<style type="text/css">body{

        background:url(images/Background.jpg);

        background-size:contain;

        background-repeat:repeat-x;

        font-family:"Trebuchet MS", Arial, Helvetica, sans-serif;}

</style></head><body><?php

session_start();

if($_SESSION['username'] != 'nadiah'){

include "login.php"; } else {

$me = $_SESSION['username'];

echo "<font color='#FFFFFF'>  Hello $me </font>     ";

echo "<font size='-1' color='#FFFFFF'> logout here >> <a href='logout.php' border='0'><img src='images/unlock.png' width='15'></a></font>";

include "menu.html";

require_once "connection/db_rc.php";

echo "<form method='post' action='storeaction.php' align='center'>";

if (isset($_POST['edit'])){

#checkbutton 1

        if ($_POST['ckc1'] == "on"){

        $id1 = $_POST['id1'];
```

```
$text1 = $_POST['tarea1'];

$unit1 = $_POST['unit1'];

$sql1 = "SELECT * FROM ozekimessagein WHERE id=".$id1."";

 $result1 = mysql_query($sql1, $connection) or die("Couldn't execute query");

 $counter1 = 0;

 $numRecord1 = mysql_numrows($result1);

 if ($numRecord1 <= 0) {

        print("The database is empty<br />\n");

 } else {

echo "<table align='center'><tr bgcolor='#728FCE'><th>ID</th><th width='500'>Report</th><th>Unit
Terlibat</th><th>Tindakan<th></th></tr>";

        while ($myrow1 = mysql_fetch_row($result1)) {

$counter1++;

        $report1=$myrow1[3];

        echo "<tr bgcolor='737CA1'><td><input type='text' name='id1' value='".$id1."'
size='2'/></td><td>".$report1."</td><td align='left'>"; ?> <?php if ($unit1== "IPD"){ echo "

<input type='radio' name='polis1' value='IPD Ampang Jaya' /> IPD Ampang Jaya<br />

<input type='radio' name='polis1' value='IPD Gombak' /> IPD Gombak<br />

";} else { echo "

<input type='radio' name='polis1' value='IPK Selangor' /> IPK Selangor<br />

";}?><?php echo "</td><td><textarea name='text1'>".$text1."</textarea><br /><input type='submit' name='submit1'
value='submit' /></td></tr>"; } }

echo "</table>";

echo "<br /><br /><br /><br />";

#checkbutton2

} if ($_POST['ckc2'] == "on"){

$id2 = $_POST['id2'];

$text2 = $_POST['tarea2'];

$unit2 = $_POST['unit2'];


$sql2 = "SELECT * FROM ozekimessagein WHERE id=".$id2."";

 $result2 = mysql_query($sql2, $connection) or die("Couldn't execute query");

 $counter2 = 0;
```

```
$numRecord2 = mysql_numrows($result2);

if ($numRecord2 <= 0) {

        print("The database is empty<br />\n");

} else {

echo "<table align='center'><tr bgcolor='#728FCE'><th>ID</th><th width='500'>Report</th><th>Unit
Terlibat</th><th>Tindakan<th></th></tr>";

        while ($myrow2 = mysql_fetch_row($result2)) {

$counter2++;

        $report2=$myrow2[3];

        echo "<tr bgcolor='737CA1'><td><input type='text' name='id2' value='".$id2."'
size='2'/></td><td>".$report2."</td><td align='left'>"; ?> <?php if ($unit2== "IPD"){ echo "

<input type='radio' name='polis2' value='IPD Ampang Jaya' /> IPD Ampang Jaya<br />

<input type='radio' name='polis2' value='IPD Gombak' /> IPD Gombak<br />

";} else { echo "

<input type='radio' name='polis2' value='IPK Selangor' /> IPK Selangor<br />

";}?><?php echo "</td><td><textarea name='text2'>".$text2."</textarea><br /><input type='submit' name='submit2'
value='submit' /></td></tr>"; } }

echo "</table>";

echo "<br /><br /><br /><br />";

#checkbutton 3

} if ($_POST['ckc3'] == "on"){

$id3 = $_POST['id3'];

$text3 = $_POST['tarea3'];

$unit3 = $_POST['unit3'];


$sql3 = "SELECT * FROM ozekimessagein WHERE id='".$id3."'";

 $result3 = mysql_query($sql3, $connection) or die("Couldn't execute query");

 $counter3 = 0;

 $numRecord3 = mysql_numrows($result3);

 if ($numRecord3 <= 0) {

        print("The database is empty<br />\n");

 } else {

echo "<table align='center'><tr bgcolor='#728FCE'><th>ID</th><th width='500'>Report</th><th>Unit
Terlibat</th><th>Tindakan<th></th></tr>";
```

```
                while ($myrow3 = mysql_fetch_row($result3)) {

        $counter3++;

                $report3=$myrow3[3];

                echo "<tr bgcolor='737CA1'><td><input type='text' name='id3' value='".$id3."'
size='2'/></td><td>".$report3."</td><td align='left'>"; ?> <?php if ($unit3== "IPD"){ echo "

<input type='radio' name='polis3' value='IPD Ampang Jaya' /> IPD Ampang Jaya<br />

<input type='radio' name='polis3' value='IPD Gombak' /> IPD Gombak<br />

";} else { echo "

<input type='radio' name='polis3' value='IPK Selangor' /> IPK Selangor<br />

";}?><?php echo "</td><td><textarea name='text3'>".$text3."</textarea><br /><input type='submit' name='submit3'
value='submit' /></td></tr>";

        }

        }

        echo "</table>";

        echo "<br /><br /><br /><br />";
```

#chckbox 4

```
        }       if ($_POST['ckc4'] == "on"){

        $id4 = $_POST['id4'];

        $text4 = $_POST['tarea4'];

        $unit4 = $_POST['unit4'];

        $sql4 = "SELECT * FROM ozekimessagein WHERE id=".$id4."";

        $result4 = mysql_query($sql4, $connection) or die("Couldn't execute query");

        $counter4 = 0;

        $numRecord4 = mysql_numrows($result4);

        if ($numRecord4 <= 0) {

                print("The database is empty<br />\n");

        } else {

        echo "<table align='center'><tr bgcolor='#728FCE'><th>ID</th><th width='500'>Report</th><th>Unit
Terlibat</th><th>Tindakan<th></th></tr>";

                while ($myrow4 = mysql_fetch_row($result4)) {

        $counter4++;

                $report4=$myrow4[3];
```

```
                    echo "<tr bgcolor='737CA1'><td><input type='text' name='id4' value='".$id4."'
size='2'/></td><td>".$report4."</td><td align='left'>"; ?> <?php if ($unit4== "IPD"){ echo "

<input type='radio' name='polis4' value='IPD Ampang Jaya' /> IPD Ampang Jaya<br />

<input type='radio' name='polis4' value='IPD Gombak' /> IPD Gombak<br />

";} else { echo "

<input type='radio' name='polis4' value='IPK Selangor' /> IPK Selangor<br />

";}?><?php echo "</td><td><textarea name='text4'>".$text4."</textarea><br /><input type='submit' name='submit4'
value='submit' /></td></tr>";

          }}

          echo "</table>";

          echo "<br /><br /><br /><br />";

#checkbox 5

          }          if ($_POST['ckc5'] == "on"){

          $id5 = $_POST['id5'];

          $text5 = $_POST['tarea5'];

          $unit5 = $_POST['unit5'];

          $sql5 = "SELECT * FROM ozekimessagein WHERE id=".$id5."";

           $result5 = mysql_query($sql5, $connection) or die("Couldn't execute query");

           $counter5 = 0;

           $numRecord5 = mysql_numrows($result5);

           if ($numRecord5 <= 0) {

                    print("The database is empty<br />\n");

           } else {

         echo "<table align='center'><tr bgcolor='#728FCE'><th>ID</th><th width='500'>Report</th><th>Unit
Terlibat</th><th>Tindakan<th></th></tr>";

                    while ($myrow5 = mysql_fetch_row($result5)) {

        $counter5++;

                    $report5=$myrow5[3];

                    echo "<tr bgcolor='737CA1'><td><input type='text' name='id5' value='".$id5."'
size='2'/></td><td>".$report5."</td><td align='left'>"; ?> <?php if ($unit5== "IPD"){ echo "

<input type='radio' name='polis5' value='IPD Ampang Jaya' /> IPD Ampang Jaya<br />

<input type='radio' name='polis5' value='IPD Gombak' /> IPD Gombak<br />

";} else { echo "

<input type='radio' name='polis5' value='IPK Selangor' /> IPK Selangor<br />
```

```
";}?><?php echo "</td><td><textarea name='text5'>".$text5."</textarea><br /><input type='submit' name='submit5'
value='submit' /></td></tr>";

            }}

            echo "</table>";

            echo "<br /><br /><br /><br />"; }

echo "<input type='submit' name='submitall' value='submit' /></form>";}}

?></body></html>
```

Submitreward.php

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-
transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />

<link rel="shortcut icon" href="images/rc.ico" />

<title>Rakan Cop</title>

<style type="text/css">

body{    background:url(images/Background.jpg);

            background-repeat:repeat-x;

            font-family:"Trebuchet MS", Arial, Helvetica, sans-serif;}

</style></head><body><?php

session_start();

require_once "connection/db_rc.php";

if (isset($_POST['submit'])){

            $num1 = $_POST['num1'];

            $id1 = $_POST['id1'];

            $reward1 = $_POST['reward1'];

            $sqla1 = "SELECT `points` FROM `member` WHERE `mobileNo`=".$num1;

            $result1 = mysql_query($sqla1, $connection) or die("Couldn't execute query");

            $numRecord1 = mysql_numrows($result1);

            $myrow1 = mysql_fetch_array($result1);

            $points1 = $myrow1['points'];

            $treward1 = $points1 + $reward1;

            $sqlb1 = "UPDATE member SET points='".$treward1."' WHERE mobileNo='".$num1."'";
```

```
$result1 = mysql_query($sqlb1, $connection) or die("Couldn't execute query");


$sqlc1 = "INSERT INTO ozekimessageout (receiver,msg,status) VALUES ('".$num1."','Your current point is ".$treward1." TQ for participating in RC program. Keep Active for greater rewards! Visit http://www.rakancop.net for more info','send')";

mysql_query($sqlc1, $connection);

$num2 = $_POST['num2'];

$id2 = $_POST['id2'];

$reward2 = $_POST['reward2'];

$sqla2 = "SELECT `points` FROM `member` WHERE `mobileNo`=".$num2;

$result2 = mysql_query($sqla2, $connection) or die("Couldn't execute query");

$numRecord2 = mysql_numrows($result2);

$myrow2 = mysql_fetch_array($result2);

$points2 = $myrow2['points'];

$treward2 = $points2 + $reward2;

$sqlb2 = "UPDATE member SET points='".$treward2."' WHERE mobileNo='".$num2."'";

$result2 = mysql_query($sqlb2, $connection) or die("Couldn't execute query");

$sqlc2 = "INSERT INTO ozekimessageout (receiver,msg,status) VALUES ('".$num2."','Your current point is ".$treward2." TQ for participating in RC program. Keep Active for greater rewards! Visit http://www.rakancop.net for more info','send')";

mysql_query($sqlc2, $connection);

$num3 = $_POST['num3'];

$id3 = $_POST['id3'];

$reward3 = $_POST['reward3'];

$sqla3 = "SELECT `points` FROM `member` WHERE `mobileNo`=".$num3;

$result3 = mysql_query($sqla3, $connection) or die("Couldn't execute query");

$numRecord3 = mysql_numrows($result3);

$myrow3 = mysql_fetch_array($result3);

$points3 = $myrow3['points'];

$treward3 = $points3 + $reward3;

$sqlb3 = "UPDATE member SET points='".$treward3."' WHERE mobileNo='".$num3."'";

$result3 = mysql_query($sqlb3, $connection) or die("Couldn't execute query");

$sqlc3 = "INSERT INTO ozekimessageout (receiver,msg,status) VALUES ('".$num3."','Your current point is ".$treward3." TQ for participating in RC program. Keep Active for greater rewards! Visit http://www.rakancop.net for more info','send')";
```

```
            mysql_query($sqlc3, $connection);      }
if($_SESSION['username'] != 'nadiah'){
include "login.php"; } else {
$me = $_SESSION['username'];
echo "<font color='#FFFFFF'>  Hello $me </font>     ";
echo "<font size='-1' color='#FFFFFF'> logout here >> <a href='logout.php' border='0'><img src='images/unlock.png'
width='15'></a></font>";
include "menu.html";
$counter = 0;
$sql = "SELECT * FROM `member`";
$result = mysql_query($sql, $connection) or die("Couldn't execute query");
$numRecord = mysql_numrows($result);
            if ($numRecord <= 0) {
                    print("The database is empty<br />\n");  } else {
                     echo "<form action='submitreward.php' method='post'>
 <table width= border='5' align='center'>
  <tr bgcolor='#728FCE'>
   <td bgcolor=''>Bil</td>
          <td>Number ID</td>
          <td>Telephone Number</td>
   <td>Nickname</td><br />
          <td>Points</td>";
          while ($myrowe = mysql_fetch_row($result)) {              //step 5: extract the returned output in an array
          $counter++;
                          echo"<tr bgcolor='#737CA1'>
                          <td>".$counter."</td></tr>";  }
                  echo "</table></form>";   }}?>
</body></html>
```