

**MALAYSIAN M-GOVERNMENT PORTAL FOCUSING ON TRANSACTIONAL-BASED
SERVICES**

by

Noor Arina Bt Noor Adnan

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the requirements for the
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Universiti Teknologi PETRONAS
Bandar Seri Iskandar
31750, Tronoh
Perak Darul Ridzuan

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TABLE OF CONTENTS

CERTIFICATION OF APPROVAL	i
CERTIFICATION OF ORIGINALITY	ii
ABSTRACT	iii
ACKNOWLEDGEMENT	iii
CHAPTER 1: INTRODUCTION	1
1.1 Background of study	1
1.2 Problem statement	2
1.3 Objectives and Scope of Study	2
1.3.1 Objective(s)	2
1.3.2 Scope of Study	3
CHAPTER 2: LITERATURE REVIEW	4
2.1 E-government initiatives	4
2.2 E-government services portal in Malaysia	6
2.2.1 myGovernment	6
2.2.2 MyEG Services	8
2.3 M-government initiatives	9
CHAPTER 3: METHODOLOGY	14
3.1 Procedure Identification	14
3.1.1 Part A	14
3.1.2 Part B	15
3.2 Tools	16
3.2.1 Software	16
3.2.2 Hardware	17
CHAPTER 4: RESULT AND DISCUSSION	18
4.1 Current M-government system	18
4.2 Survey Result	19
4.2.1 Awareness	19
4.2.2 Acceptance towards m-government system in daily life	19

4.3 MGov Portal.....	21
4.4 Workflow of MGov Portal.....	25
4.5 MGov Use Case	27
4.5.1 Use case of MGov portal	27
4.5.2 Use case of Login function	28
4.5.3 Use case of MyProfile function	29
4.5.4 Use case of Kejara status function	30
4.5.5 Use case of Summon/compound function	31
4.6 Class Diagram.....	32
4.7 Dialogue Chart.....	33
4.8 User Acceptance Test.....	33
4.8.1 Section A.....	34
4.8.2 Section B.....	34
4.8.3 Section C.....	36
4.8.4 Conclusion of User Acceptance Test.....	38
CHAPTER 5: CONCLUSION	39
REFERENCES	41
APPENDICES	43
Appendix 1: Survey Questions	43
Appendix 2: User Acceptance Test Questions.....	52
Appendix 3: Screenshot of MGov portal	55

LIST OF FIGURES

Figure 2.1: 3P Model for m-government application.....	11
Figure 3.1: The workflow of the project.....	14
Figure 4.1: Type of m-government services.....	20
Figure 4.2: MGov high level architecture.....	22
Figure 4.3: MGov architecture.....	23
Figure 4.4: Workflow MGov portal.....	25
Figure 4.5: Use-case of MGov portal.....	27
Figure 4.6: Use-case of Login Function.....	28
Figure 4.7: Use-case of MyProfile function.....	29
Figure 4.8: Use-case of Kejara status function.....	30
Figure 4.9: Use-case of Summon & Compound function.....	31
Figure 4.10: Class diagram of MGov portal.....	32
Figure 4.11: MGov dialogue chart.....	33
Figure 4.12: Age.....	34
Figure 4.13: Visibility of the system status.....	35
Figure 4.14: Recognition rather than recall.....	35
Figure 4.15: Flexibility and ease of use.....	36
Figure 4.16: Effectiveness of the portal for check summons.....	36
Figure 4.17: Effectiveness of the portal for summonses payment.....	37
Figure 4.18: Effectiveness of the information provided in the MGov portal.....	37
Table 3.1: Categories of portal functionalities.....	15
Table 4.1: The Acceptances of m-government.....	20
Table 4.2: Description of MGov main pages.....	26
Table 4.3: Use case description of Login function.....	28
Table 4.4: Use case description of MyProfile function.....	29
Table 4.5: Use case description of Kejara status function.....	30
Table 4.6: Use case description of Check Summon & compound function.....	31

CERTIFICATION OF APPROVAL

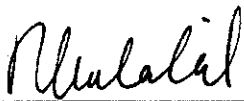
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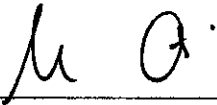


(Mr. Khairul Shafee Kalid)

UNIVERSITI TEKNOLOGI PETRONAS
TRONOH, PERAK
JULY 2006

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 on the references, and that the original work contained herein have not been undertaken by unspecified source or persons.



NOOR ARINA BT NOOR ADNAN

ABSTRACT

This report explores the prospect of mobile government (m-government), an extension of the growing movement toward electronic government (e-government). This project will be mainly focus on introducing and developing a new wireless application for a government agency. Currently the available m-government application is based on the SMS technology. The services provided are mainly just to check basic individual information such as check status of voting or the traffic summon. The objective of this project is to provide a single point of contact for governmental related services and community-based information which can be access by local citizen through mobile phone. In the first part of the project, a survey has been conducted to gather the requirements of the project and in the same time to analyze the level of understanding and awareness about m-government services among local citizens. At the end of this project, all the functions of the system should be completed and a user-friendly site can be access through GPRS. As the conclusion, m-government is reflected in the changing pattern of public interaction with government, where increasing amounts of interactions will be through portable ICTs. It can help make public information and government services available "anytime, anywhere".

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CHAPTER 1: INTRODUCTION

1.1 Background of study

Malaysian government has moved forward to the era of wireless technology along with the growth of information communication technology (ICT). Realizes the demand for better, more efficient and more effective government, Malaysian government has pursued 'government services on internet via mobile phone' or known as m-government initiatives to offer more information and online services to citizens, government agencies, business and others. M-government is a subset of 'government services on the internet' or better known as e-government. M-government can help make public information and government services available anytime and anywhere to citizens.

But before we move further discussing about the m-government, do people around the world especially Malaysians understand the concept of m-government and how does it will impact our daily basis?

M-government is defined as government's efforts to provide information and services to public employees, citizens, businesses, and nonprofit organizations through wireless communication networks and mobile devices such as pagers, PDAs, cellular phones, and their supporting systems (Moon, 2003). The main objective of m-government is trying as much as possible to increase the quality and efficiency of customer services (public service) on the one hand and of business operations (reducing costs and time while handling tasks) on the other hand.

This project aims to provide citizen with a transactional-based services portal that can be browsed via mobile phone with GPRS connection. The services are based on the

transactional concept. Meaning that the information is collected or provided by the user who is the citizen and service is delivered (a complete transaction). The portal will strengthen the government to people relationship.

1.2 Problem statement

Currently in Malaysia, the government has official government portal such as myGovernment, Royal Malaysia Police official website, Ministry of Education Malaysia official website and Ministry of Health Malaysia official website that provide e-Government services, information and events handle by government agencies to the local citizens. Citizen who wants to use the services provided in the portal need to access the portal through their computer. This situation is not convenient for a person who travels a lot or do not have a computer to access the internet. In order to make the services and information available to the citizens regardless where they are, the government should provide citizens with more efficient way of communication. Current m-government services provided in the country is based on SMS technology. Citizen only allowed to check the status or summons. They cannot get more information regarding the government agencies or pay the summons directly from their mobile phone. Citizen still requires go to the nearest kiosk, office or use online payment via computer to pay the summons or bills.

1.3 Objectives and Scope of Study

1.3.1 Objective(s)

M-government is a solution to enable local citizen communicates with the government agencies and uses the services at anywhere and anytime. The objectives of this project are:

1. To analyze the public awareness and acceptance towards m-government.

- A study on the awareness and the acceptance of Malaysian citizen has been conducted. The purpose of the study is determined the current understanding, awareness and also the acceptance of the local citizen about the services provided by the government through mobile phone.
2. To design a new architecture of m-government services.
 - The purpose of the architecture is to have a clear view the front-end and back-end entities that involved as a complete system.
 3. To develop a mobile portal for m-government services.
 - The purpose of developing a mobile portal is to allow local citizen to access information and perform transactions provided by the government agencies through general packet radio services (GPRS) or third generation protocol (3G) network from their mobile phone.

1.3.2 Scope of Study

The project will focus on wireless application that can be accessed via mobile phone. The scope of the project will only focus on the user perspective. The application should enables user to get information and services from a single point. The main concern in the project is the time factor.

CHAPTER 2: LITERATURE REVIEW

In the last five years, the world has seen a phenomenal increase in initiatives and efforts toward reinventing government with the help of information technology (IT). Today, use and development of “wireless to the web” technology is reaching a critical mass and people are witnessing an explosion in the use of wireless Internet appliances, including Internet-ready mobile phones and personal digital assistants (PDAs). The increase in the use of mobile technologies is said to be dramatic. This situation is supported by the Mobinet Index survey (2004). From the survey result, from Jan 2002 to April 2004, almost half (49%) of mobile users from different countries around the world say their phones can access the Internet and 36% of the respondents have browsed the internet or downloaded email on their phone. Mobinet Index is a research project initiated by global management consultants A.T. Kearney and Cambridge Business School. The project was conducted to study the trends in mobile data usage around the world.

2.1 E-government initiatives

Advances in E-government oriented technologies and services are taking place with a considerable speed around the world. E-government efforts aim to benefit from the use of most innovative forms of information technologies, particularly web-based Internet applications, in improving governments’ fundamental functions. A few authors who are analyst experts in information science and technology agreed that there are four stages of e-government evolution (Seifert, 2003; Atallah, 2001; Signore, Chesi and Pallotti, 2005) Seifert stated four stages of e-government evolution started from presence, interaction, transaction and transformation (2003).

1. Presence

- This is the stage of establishment of a placeholder for delivering information in the future. It represents the simplest and least expensive

entrance into e-government, but also offers the fewest options for citizens.

- Typical example is basic web site that list cursory information about an agency.

2. Interaction

- The second stage is interaction. Interactions are relatively simple and generally resolve around information provision. These types of initiatives are designed to help the customer avoid a trip to an office or make phone call.
- These resources may include instructions for obtaining services, downloadable forms to be printed and mailed back to an agency.

3. Transaction

- Transaction is the stage of e-government development stages. These initiatives are more complex than simple information provision. They enable clients to complete entire tasks electronically at anytime of the day or night.
- Although the level of interactivity is higher than second stage, the activities still involve a flow of information that is primarily one-way (either to government or to client, depending on activities)

4. Transformation

- The highest stage is transformation. Transformative e-government initiatives often seek to remove the organizational barriers that promote agency-centric solutions and instead, promote customer-centric solutions.

Currently our country, Malaysia is still in the third stage. The government portals such as MyEG, eSERVICES and Rilek eServices allows citizens to perform transaction through internet such as paying bills and summons online. Malaysian government is not yet ready

to move towards the last stage of e-government evolution which is transformation. This is the most advanced level where the e-government will replace or eliminate the existing agencies with the virtual organizations.

2.2 E-government services portal in Malaysia

E-government service can be defined as a government services that is offered to the end user through an electronic provisioning channel such as internet, intranet, mobile and PDA (UEA Federal Government, 2005). This website or portal provides specific service to a citizen or business. The services are interactive and/or transactional-based in nature, meaning that information is collected or provided by the customer and service is then delivered (a transaction is completed). Examples of services provided through government website are filling out tax form online, enable citizens to ask questions and receive answers and renewal of driver's licenses. In Malaysia there are several e-government services portal such as myGovernment, MyEG, eSERVICES and Rilek eServices.

2.2.1 myGovernment, URL:<http://www.gov.my>

myGovernment portal is the Malaysian government's official portal. This portal is a single point for citizen to get information and services provided by Malaysian government agencies on the internet. Some of the services provided via this portal are public complaints, e-transaction centers and messaging center. Through public complaints, users can send their complaints against any particular issue directly to the Biro Pengaduan Awam, Jabatan Perdana Menteri. Meanwhile e-transaction provides users with the forms and online services such as application for technical clearance, notification of occupational poisoning/disease and status enquiry for replanting aid application. Users also can use messaging center if there is any enquiry or comments to any government agency. The main links of the portal are:

- Registration & Login
- Application Center
- Directory
- Information & News
- Site Information

Application Center

In this page, users can personalize the portal based on their preferences. For example users can customize the MyHome page by configure favorite government links and favorite online services. Users also allow updating their personal profile and password to login the portal.

Directory

The directory page provides user with the list of government agencies directory like Ministry of Agriculture and Agro-Based Industry, Ministry of Education and Ministry of Finance. User will be redirected to respective page to get more information regarding the government agencies.

Information & News

This page will display the latest news and events organized by the government. The portal also provide user with the site map to help user browse through the portal and user can give their feedback regarding the site to the administrator of the site.

Site Information

User can get the information about the site from the link About Us and get the administration contact details from Contact Us link. The portal provides the terms and conditions regarding the use of information contains in the portal and the privacy and policy of the any transaction done via the portal.

2.2.2 MyEG Services, URL: <http://www.myeg.com.my>

MyEG is a portal of service provider for citizens or businesses. The portal enables Malaysians to interact with numerous agencies within Malaysia government and providing services ranging from information searches to licenses applications. Some of the services offered via the portal are check summons or compounds, pay summons or compounds and pay phone bills or electricity bills. The main links of this portal are:

- Home
- My Profile
- eServices
- Contact Us
- About MyEG

My Profile

The link allows users to update personal profile such as the address, phone number and email. This link also enables users to change their login password to the portal.

eServices

This page offered users to perform online transaction from the selected government agencies such as bill payment, check summon and summon payment. The selected agencies are Jabatan Pengangkutan Jalan (JPJ), Polis DiRaja Malaysia (PDRM), Telekom Malaysia Berhad (TM), Tenaga Nasional Berhad (TNB), Dewan Bandaraya Kuala Lumpur (DBKL) and Jabatan Insolvency Malaysia.

Contact Us

This page provides users with the administration contact details. So that users can contact them if there is any problem or enquiry regarding the services provided by MyEG portal.

About MyEG

The about us page displayed the brief information regarding MyEg portal. The page describes the goal and strategy of the portal.

2.3 M-government initiatives

These functions of e-government are now spreading to the use of mobile and wireless technologies and creating a new direction mobile government (m-government). M-government is defined as the strategy and its implementation involving the utilization of all kinds of wireless and mobile technology, services, applications and devices for

improving benefits for citizens, business and all government units (Kushchu and Kuscu, 2003).

The wireless channel is being viewed as the extension of the Internet-based e-channel, a paradigm shift from the static terminal of the personal computer (PC) to the flexible anytime, anywhere context of the mobile environment. At one time, executives were chained to desks in large corporate offices, but that is no longer the case. The advent of laptop computers and handheld devices has loosened the bonds that once pinned executives to their desks. During the past few years, device manufacturers, software suppliers, and network service providers have been building up the wireless infrastructure so users can access needed information more easily.

Mobile government (m-government) has been designed to provide the public with more efficient mobile administrative services and more convenient access to public services anytime and anywhere through the wireless Internet. In an attempt to advance e-government services and expand customer channels, this system is being put in place in some of the European nations, the United States, and Korea, all of which have succeeded in establishing advanced wireless Internet environments . There are many benefits can be gained by the government and citizen by applying the m-government. Now that m-government is expected, extending activities to wireless devices and networks will enable these countries to be more proactive in their operations and services by providing real-time and up-to-date information to the citizens (Kushchu and Kuscu, 2004).

There are so many approach and practices that can be implemented to the m-government system. But the goal of providing the new way of communication to the public is to strengthen the relationship between government and people (G2C). G2C or government-to-citizen initiatives are designed to facilitate citizen interaction with government (Seifert, 2003). The example of G2C sector may include security alerts, emergency announcement, notification to citizens of not paying their fines and reminders and notification of licenses renewal.

In order to provide a new way of communication between government and citizen, 3P value model can be used to evaluate the value of the emerging m-government application. 3P model used to identify the key elements what is important in some emerging m-government application (Antovski, Gusev and Mitrevski, 2004). As shown in Figure 2.1, 3P value model for m-government has three dimensions of evaluation which are prime value, pleasure value and post value.

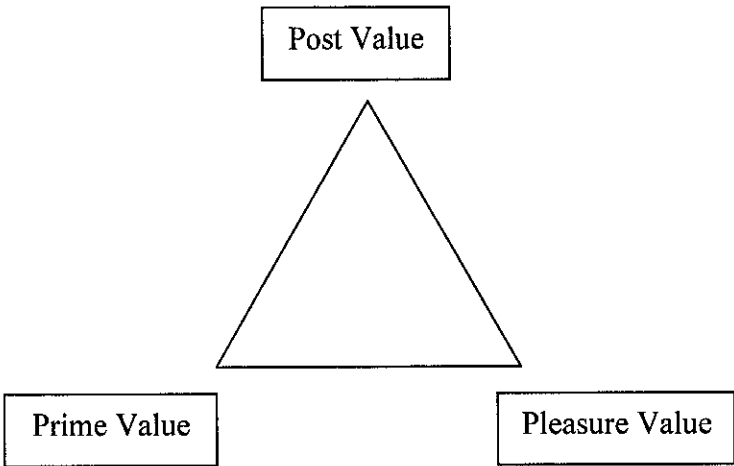


Figure 2.1: 3P Model for m-government applications

The Prime Value means satisfying a real need for the users. It is concerned with providing a solution to problems that could not be solved easily by the wired technologies such as instant information release, mobile warning and quick information collection. The second value is Pleasure Value. Pleasure Value represents provision of better services to make citizen-government interaction more enjoyable. The pleasure dimension is mainly identified in mobile transaction and faster information exchange. The third value is Post Value. Post Value is the perception of users towards government services and how users feel after they use the services. Applications that provide this value should make users feel that their privacy or security issues are handled properly.

A good m-government application will satisfy the citizen needs for a better and more efficient customer services provided by government. We can see that the deployment of m-government has been a success in some countries such as Turkey, Korea and Philippines.

1. Turkey

In Turkey, the first mobile application applied by the government is Modese (Mobile Elektronik Sistem Entegrasyon) or Mobile Electronic System Integration. The application is a G2G (government-to-government) application for law enforcement agency. This project mainly focused on enabling the law enforcement units to be more efficient and effective. It connects the law enforcement units to their respective police stations via GPRS internet connection. The system allows the mobile law enforcement units to query citizens regarding validation of their identity and checking their record history. This service allows the mobile law enforcement units to be more efficient in their job.

2. Korea

Meanwhile, in Korea, the government is applying mobile technologies to government agencies and each agency has a mobile page, similar to a web page, exclusively for mobile terminals. The services help Korean citizen get the up-to-date information directly from any agency mobile page.

3. Philippines

The other example of m-government application is TXT CSC. This application is an SMS service launched by Civil Services Commission (CSC) in Philippines. The service is aim to enhance the efficiency and speed of service delivery. Before TXT CSC has been applied, other electronic such as email and telephone hotline was provided but due to its limitation and costs, the services is hardly used. With the introduction of SMS to send complaints

in 2001, CSC made it easier for citizens to send their complaints. This made CSC job easier in tracking the corrupt government employees and government services which needed improvement.

CHAPTER 3: METHODOLOGY

3.1 Procedure Identification

Figure 3.1 shows the workflow of this project throughout FYP Part A and Part B.

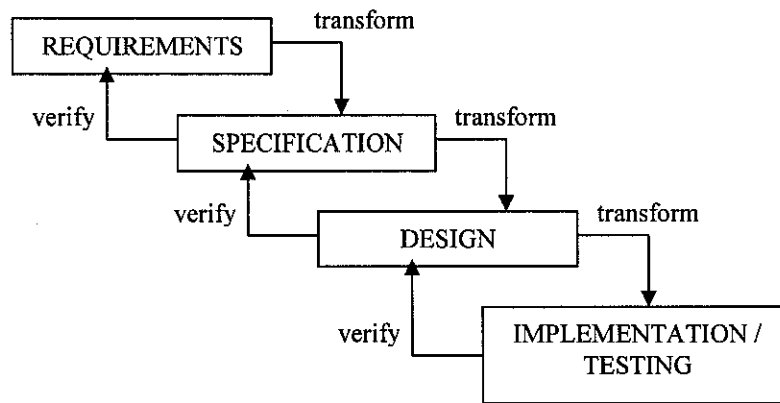


Figure 3.1: The workflow of the project.

3.1.1 Part A

Requirement analysis and specification

This project requires a good understanding about the architecture of the mobile application. In this phase, the analysis has been done to identify the acceptance, weaknesses and at which level is the understandability of local citizens about m-government. To complete the analysis phase, questionnaires have been distributed through email and paper-based. There are 190 respondents from around Malaysia have participated in this survey. Based on the survey results, a detailed analysis has been done. In part B, this project will focus on developing an m-government portal focusing on transactional-based services for three government agencies. The selected agencies are Jabatan Pengangkutan Jalan (JPJ), Polis DiRaja Malaysia (PDRM) and Majlis Bandaraya Ipoh (MBI).

System and software design

During this phase, the architecture of the mobile portal for m-government was designed. Several architectures and framework of available mobile portal such as m-learning and m-business were used as the guidelines to design a new m-government portal. Meanwhile the component reside in the architecture was determine based on the existing e-government portal like MyEG, eSERVICES and Rilek eServices. After a detailed analysis has been done regarding the architecture and requirement of a mobile application, the design of the system can be finalized. Based on the architecture of mobile application, a new portal will be developed using ASP.NET. The developed portal should allow user to get information and also perform transaction from a mobile phone via GPRS connection. All the functions of the portal will be listed and divided into critical and non-critical functions. This step is to ensure that in the next phase, the development of the system is based on the priority and time needed to develop each function. The time allocation also was done to estimate the duration to develop the portal.

3.1.2 Part B

Implementation and unit testing

In this phase, the development of the project will start incrementally. All the functions of the portal will be divided into three groups which are main functions, personalized functions and general functions.

Group	Functionalities
Main Functions	M-Services
Personalized functions	myProfile, Contact Us, About MGov,
General Functions	Main Page, Login and Logout.

Table 3.1: Categories of portal functionalities.

At this level, set of functional testing also will be performed for each of the function to ensure that all the functions are well functioning. Each of the function will be tested based on its functionality. Some of the test questions are:

- Were the links redirected to the right page?
- Were the users successfully authenticated?
- Was the data inserted or updated stored in the correct database?
- Was the data displayed is the correct data requested from the database?

Functional testing is used to check that the outputs of each function, given certain inputs will be same as what with the expected outputs from the function.

Integration and system testing

For this phase, all the functions will be combined together as a complete portal and will be tested to ensure its compatibility with one another to ensure that all the requirements have been met as a complete system. The portal will be tested by a group of users for user acceptance test. The purpose of the testing to ensure that the portal meet the user requirement specification. The result of the test will be used to enhance the performance of the portal in the future.

3.2 Tools

Below are the suggested tools that are going to be used during the development of m-government project.

3.2.1 Software

1. Microsoft ASP.NET
2. Microsoft Access
3. IIS (Internet Information Services)

3.2.2 Hardware

1. a personal computer
 - Intel Pentium 4 Processor
 - 2.4GHz
 - 256of RAM
 - 40b of Hard disk
2. a mobile phone
 - GPRS or 3G connection

CHAPTER 4: RESULT AND DISCUSSION

4.1 Current M-government system

The initiative of m-government in Malaysia is still at the early development stage. Current system is using Short Message Services (SMS) based. Let us take an example of check summon provided by PDRM, where user first send the SMS with a code of a procedure. The automated SMS will send back the requested information to the user. The main disadvantage of current system is the limitation of SMS which can transmit up to 160 characters only. Because of the limitation, the message must be really short and precise. It also makes the current system only suitable for notification services. It is hard for user to get additional information from the government. The other disadvantage of the current system is the system do not has user interface (UI). UI one of the most important elements for a system because with the help of UI some information can be delivers to the user more easily. For example to send user about the summon details and total amount that he needs to pay via SMS, the information would be quiet messy and user will feel uncomfortable to read too much words from the screen.

One of the alternatives to solve or try to eliminate the limitation of using SMS-based system is by introducing m-government that can be access via GPRS. Main advantage of m-government via GPRS is it provides user with UI. The system would be more attractive and user-friendly compared to the system without UI. User can browse through the system without any limitation. User can get more information from the system because there is no limitation in term of number of characters that can be displayed. The system also enable user to perform transaction such as pay summon directly from their phones.

Even though a lot of advantages can be gained by using m-government via GPRS, this alternative also has its own limitation. The first limitation is internet access

through GPRS phones are limited and cost relatively high. In addition, in order to make the use of m-government widespread, the use of mobile internet should be increased too.

4.2 Survey Result

A survey has been conducted during Part A. The duration for the survey is 7 week, starting from 20th March 2006 until 5th May 2006. There are 190 respondents from around Malaysia have participated in the survey. The respondents came from different background and ages so that the end result will be various. This is because the target user of this system is not only just for one generation. This system can be used by anyone as long as the person has a mobile phone with GPRS connection. Questions in the survey mainly asked about the awareness and how far the acceptance of local citizen towards m-government system.

4.2.1 Awareness

Among all respondents, 57 percent of the respondents are aware about the m-government services in Malaysia and 45 percent of them have used the services. It indicates that the awareness of the wireless services provided by government still consider as average. Figure 4.1 shows the a few types of m-government services available in Malaysia. Among the m-government services provided, the three highest m-government services that have been used by the respondents are check traffic summon by Royal Malaysian Police (83 respondents), check voting status by Election Commission of Malaysia (26 respondents) and UPU-SMS by Ministry of Higher Education Malaysia (20 respondents).

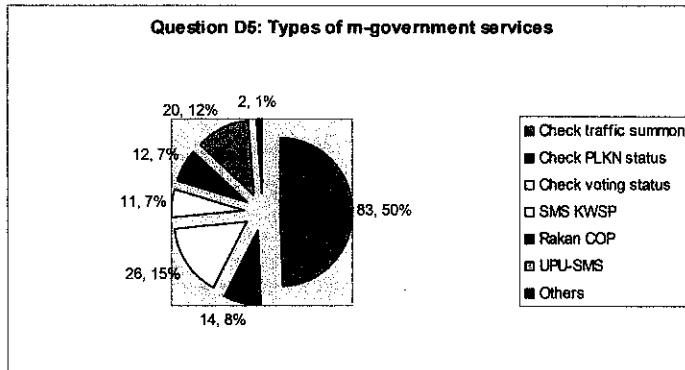


Figure 4.1: Type of m-government services

4.2.2 Acceptance towards m-government system in daily life

Below are the samples of questions asked in the survey:

No.	Acceptance	Mode	Mean
1	Usefulness of m-government in daily life activities	5.0	4.74
2	Easiness to obtain information	5.0	5.11
3	Improve communication with government agency	5.0	4.85
4	Help deliver duty as a responsible citizen	5.0	4.93

Table 4.1: The Acceptance of M-government

Based on the responses from a scale of 1 to 7 as a group, respondents rated the acceptance as 5 which are likely. The result shows that they are comfortable about using wireless technology in their daily life. The result may also portray the fact that offering public services via wireless connection was felt important in general. Yet, it is safe to conclude that m-government system is generally accepted as a means of accessing public information and services.

4.3 MGov Portal

Based on the survey done and to provide better services to the citizen, a new mobile application will be developed called MGOV portal. MGov portal is a mobile portal which is specifically designed for mobile phone that has GPRS connection. MGov portal will be based on existing e-government portal such as MyEG, eSERVICES and Rilek eServices. MGov portal allows user to perform transactions such as check summon or compound and pay the summons directly from the mobile phone. MGov portal also provide user with basic information related to the chosen government agencies. Figure 4.2 shows the high level architecture of MGov portal. The architecture consists of two layers, wired connection and wireless connection. This project will only cover the communication between citizen and MGov portal which are reside in wireless connection layer.

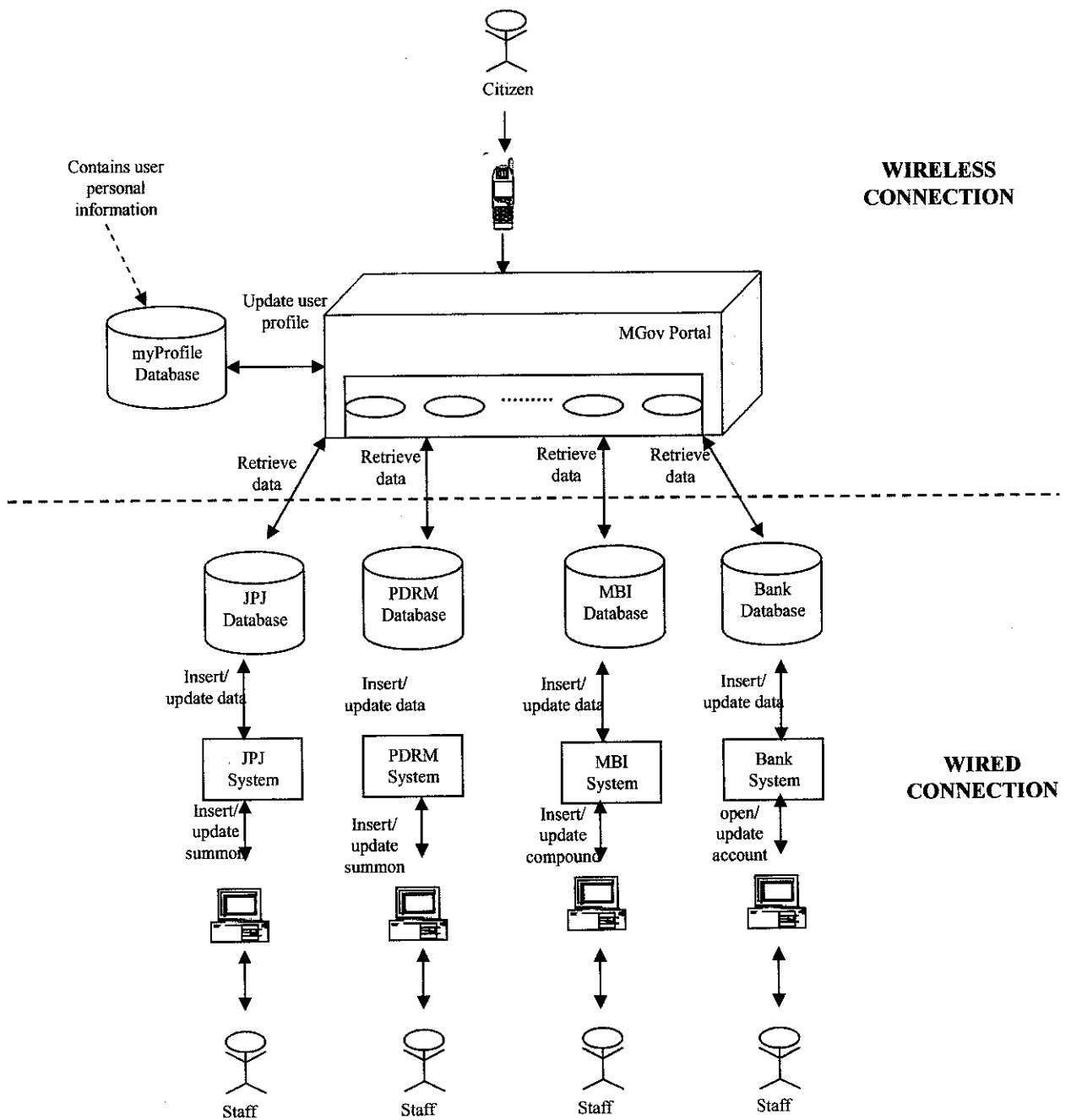


Figure 4.2: M-government high level architecture

Wired Connection

This layer shows the basic transaction done from the government agencies and bank. Every day each of the government agencies and bank will use their system using personal computers in the office to update or insert new data such as

summon, compound or other user's bank transaction. The systems will enter the data into the respective databases.

Wireless Connection

In this layer, user which is citizen will use mobile phone to check or pay summon via MGov portal. MGov portal will use the same databases to retrieve data from each of the agencies and bank. Figure 4.3 shows the detail architecture of MGov portal.

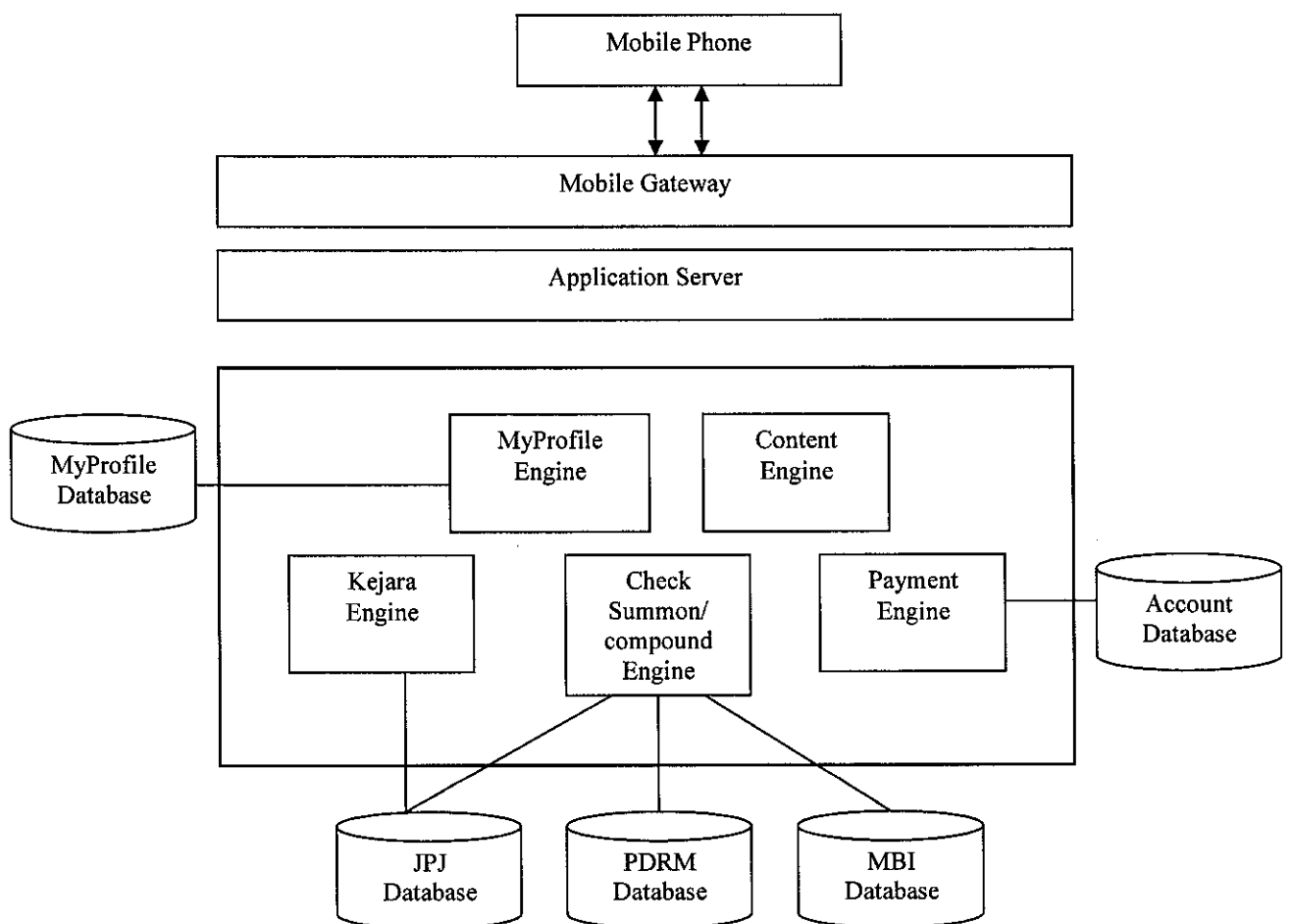


Figure 4.3: M-government architecture

The system contains five main components which are MyProfile, content, Kejara, Check summon or compound and Payment. The system will relate to five different databases.

1. MyProfile engine

For a first time user, citizen needs to register with MGov portal first before he can use the services provided. The user which is the citizen requires filling in a registration form that requires them to give his personal details such as name, address, and identification card number. All the data will be insert into the MyProfile database. Once the user has been registered, he can use MyProfile engine to update his personal details and change his login password.

2. Content engine

Content engine will handles all the content displayed in MGov portal such as the basic information about each government agencies, how to contact the administrator of MGov portal and the information about MGov portal.

3. Kejara engine

User can check his kejara status through kejara engine. Kejara is a demerit points system introduced by JPJ. Kejara engine will be connected to JPJ database to retrieve data regarding user's status and display the result to the user.

4. Check summon or compound engine

Checks summon or compound engine allows user to check summons from JPJ, PDRM and MBI. This engine will be connected to three different database which are JPJ database, PDRM database and MBI database.

After retrieving the data from the respective database, this engine will display the results to the user.

5. Payment engine

Payment engine is an engine that handles the payment transaction, if the user wants to pay summons through MGov portal. This engine will be connected to the bank database to verify user's account number and balance in his account.

4.4 Workflow of MGov Portal

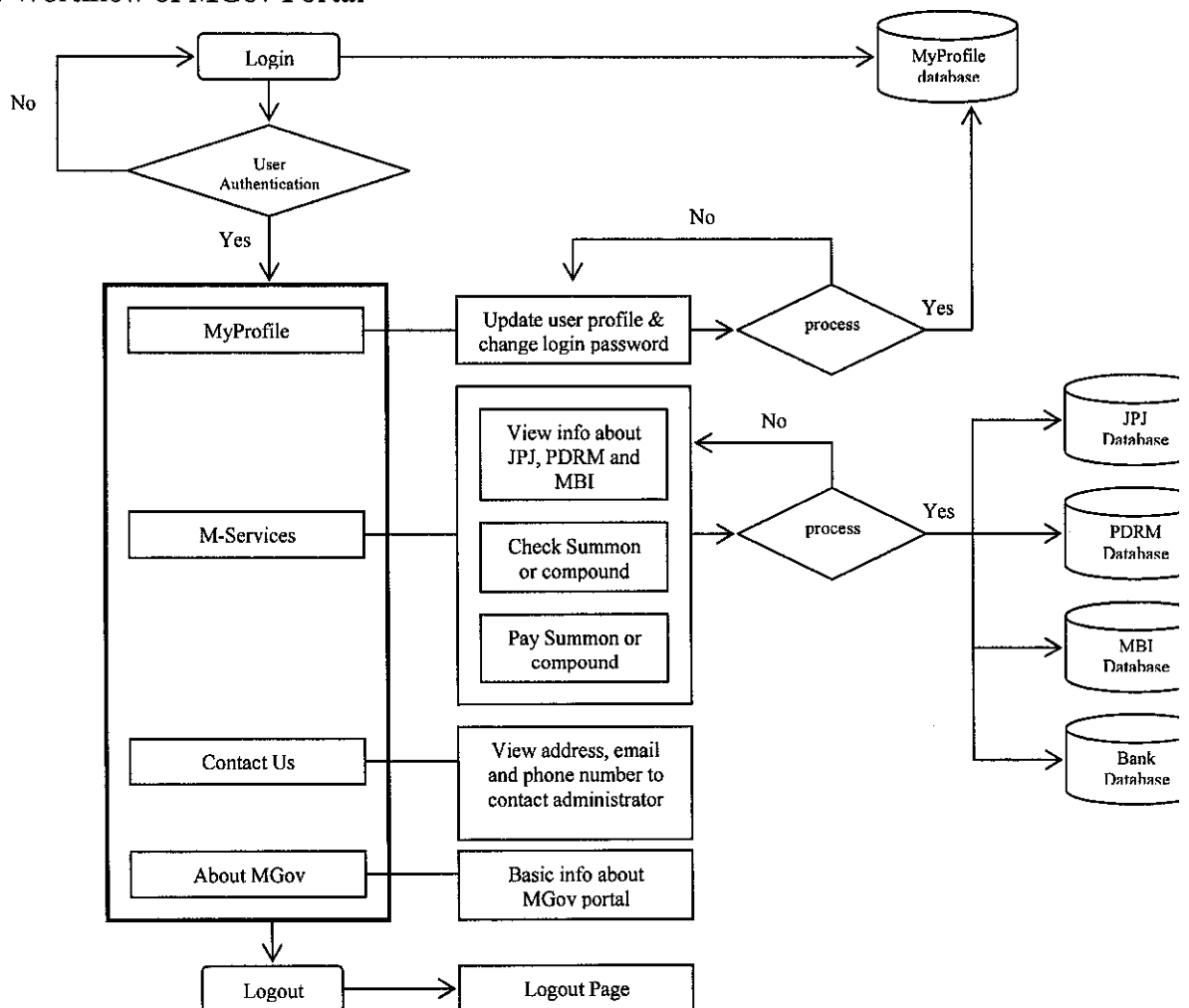


Figure 4.4: Workflow of MGov Portal

The flow of the system started from the user, who is the citizen. The user will use his mobile phone to access m-government system. As shown in Figure 4.4, first user need to login into the system by entering his username and password. If the user is a new user, he needs to register with the system before he can login into the system. After successful login in to the system, there will be five links that user can choose which are MyProfile, M-services, Contact Us, About MGov and Logout.

MyProfile	Allow user to view, update his profile and change his password
M-services	<p>Contains three different links to each of government agencies.</p> <ol style="list-style-type: none"> 1. JPJ: provide user with four options whether to check Kejara status, check and pay summon, view information and FAQ about JPJ. 2. PDRM: allow user to check and pay summon, view information and FAQ about PDRM 3. MBI: allow user to check and pay compound, view information and FAQ about MBI.
Contact Us	Provide user with the address and contact number of the administrator of the system
About MGov	Provide a brief description about the MGov portal
Logout	Allow user to exit from the portal

Table 4.2: Description of M-government main pages

4.5 MGov Use Case

4.5.1 Use case of MGov portal

Figure 4.5 shows the overall use case of MGov portal. Each of the function will discuss in details according the respective use cases.

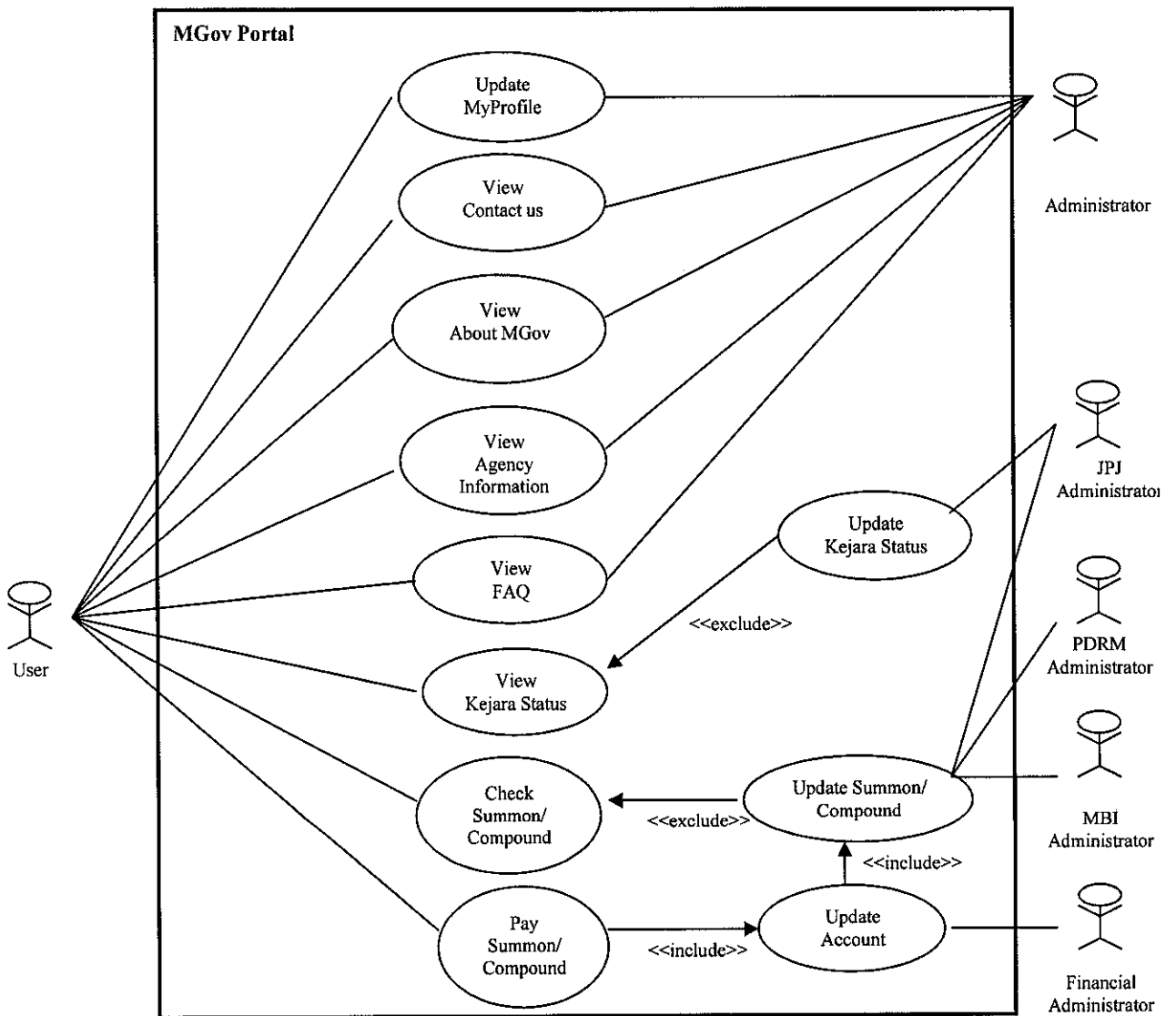


Figure 4.5: Use case of MGov portal

4.5.2 Use case of Login function

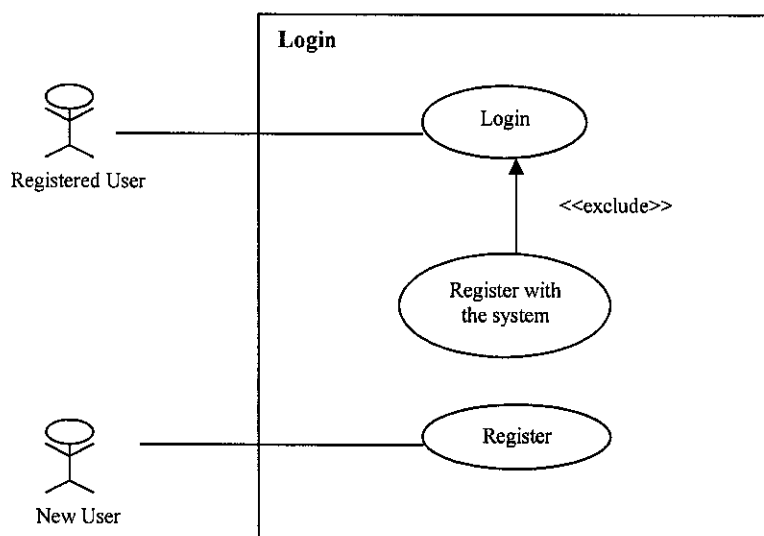


Figure 4.6: Use case of Login function

Use Case	Login function
Actor	Citizen
Description	<p>The use case starts when the user wants to login into the MGov portal. If the user had registered with the system previously, the user requires entering his login id and password. The system then will verify with MyProfile database to check whether the id and password are valid. If both the login id and password match with the data in the database, the system will direct the user to the main menu page. If the login id and password did not match, the system will prompt error message to the user.</p> <p>If the user is a new user, he requires filling in registration form first before they are allowed to login into the portal. After submitted the form, the user requires to enter the login id and password that they have created.</p>

Table 4.3: Use case description of Login function

4.5.3 Use case of MyProfile function

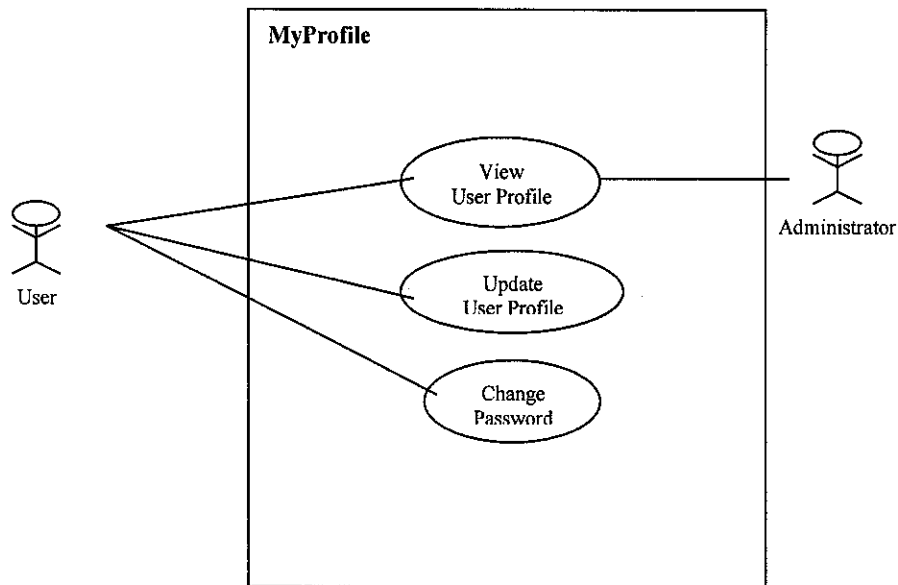


Figure 4.7: Use case of MyProfile function

Use Case	MyProfile function
Actor	Citizen, MGov administrator
Description	The use case starts when the user choose MyProfile link. This function allows user to change his personal information such as address, phone number and email. User also can change the login password from MyProfile function. The system will update the changes into the MyProfile database which contains user's personal information entered in the registration form. The system administrator of the portal can only view user's personal information.

Table 4.4: Use case description of MyProfile function

4.5.4 Use case of Kejara status function

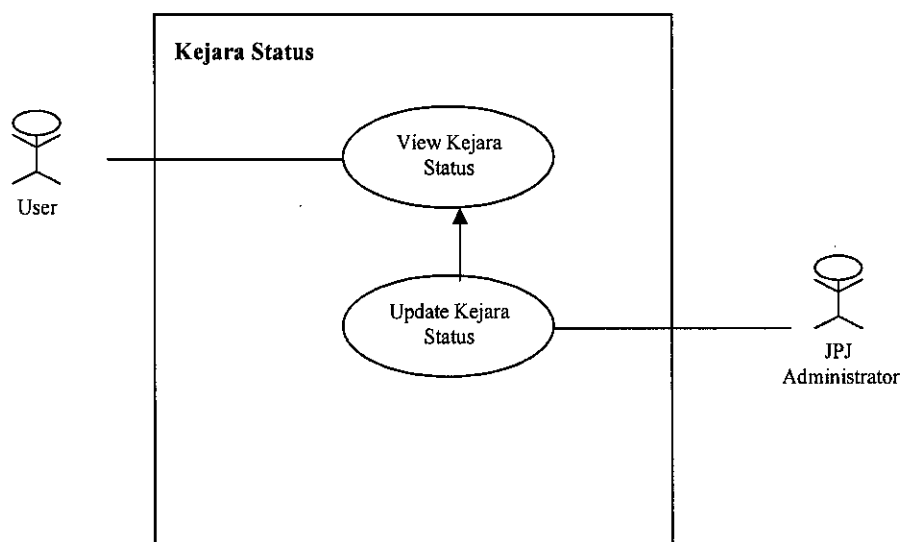


Figure 4.8: Use case of Kejara Status function

Use Case	Kejara Status function
Actor	Citizen and JPJ administrator
Description	<p>The use case starts when the user chooses to check kejara status</p> <p>The user requires entering basic information such as the IC number</p> <p>Then the system will verifies the information provided by user with the JPJ database. Then the system will display the result to the user</p> <p>Only JPJ administrator has the authority to update the kejara status in the JPJ database.</p>

Table 4.5: Use case description of Kejara Status function

4.5.5 Use case of Summon/compound function

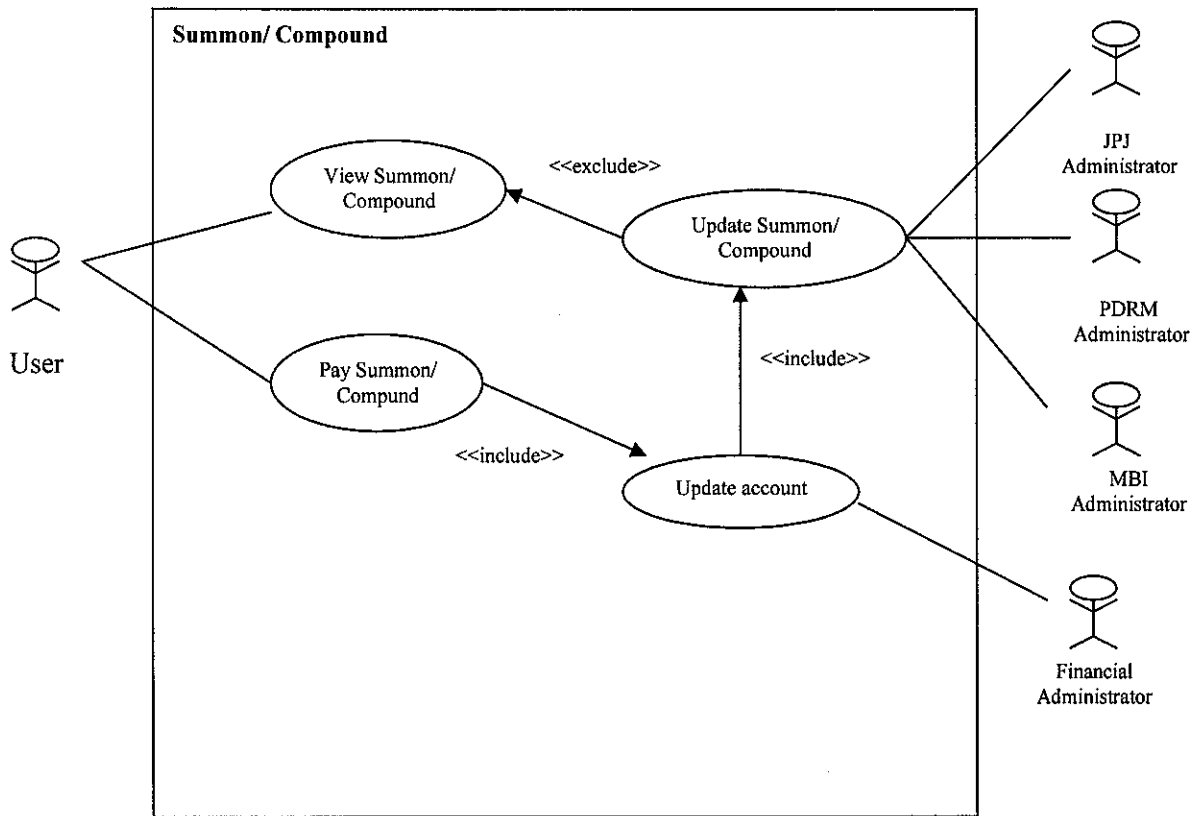


Figure 4.9: Use case of Check Summon and Compound function

Use Case	Check Summon and Compound function
Actor	Citizen, JPJ administrator, PDRM administrator, MBI administrator and financial administrator
Description	To check summon or compound from JPJ, PDRM or MBI, user requires to enter some information such as the vehicle plate number and IC number. The system then will retrieve the information from the respective database. The system will display the result to the user. If the user wish to pay summons or compounds, user will be asked to select summon that he wants to pay and also enter the basic details such as account number and IC number. The system will verifies with the bank database and if the account is valid and has enough balance to pay the summons, the system will perform the transaction. The system than will update the summon status. As

	<p>for JPJ, PDRM and MBI only the authorized administrators are allowed to update directly from the respective database. Meanwhile for bank database, only an authorized financial administrator can update user's account.</p>
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Table 4.6: Use case description of Check Summon and Compound function

4.6 Class Diagram

Figure 4.10 shows the class diagram of MGov portal.

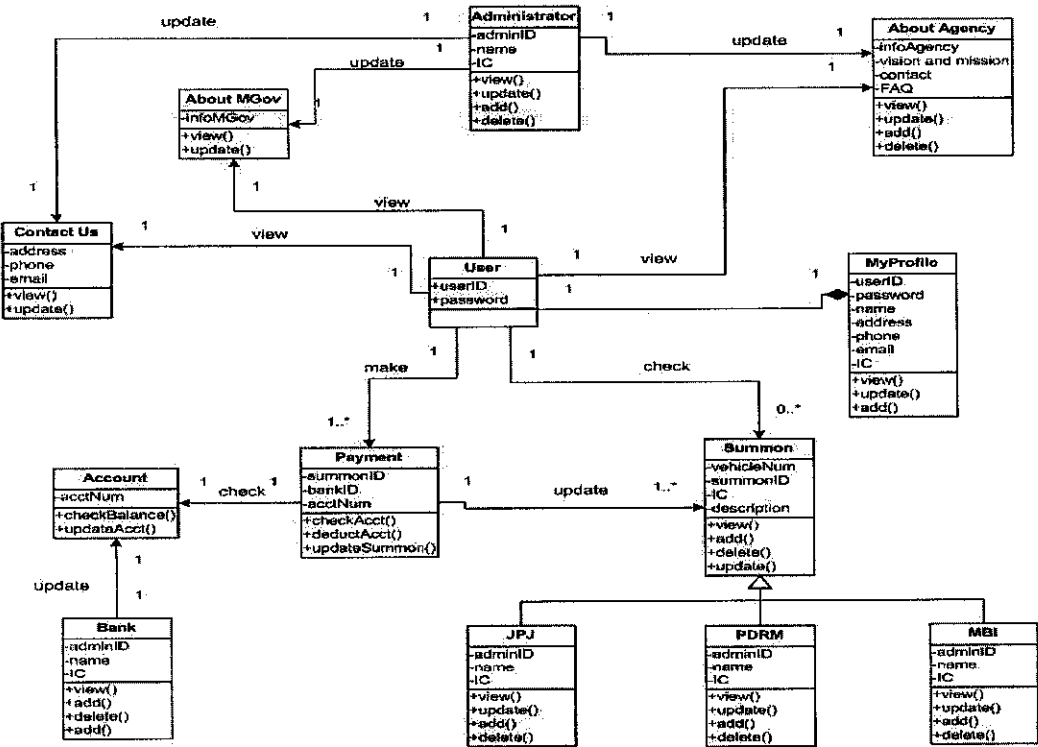


Figure 4.10: Class diagram of MGov portal

4.7 Dialogue Chart

Figure 4.11 shows the dialogue chart of MGov portal. Dialogue chart is a chart that maps all the screens of MGov portal. The chart shows the relation between each screen that user can browse through.

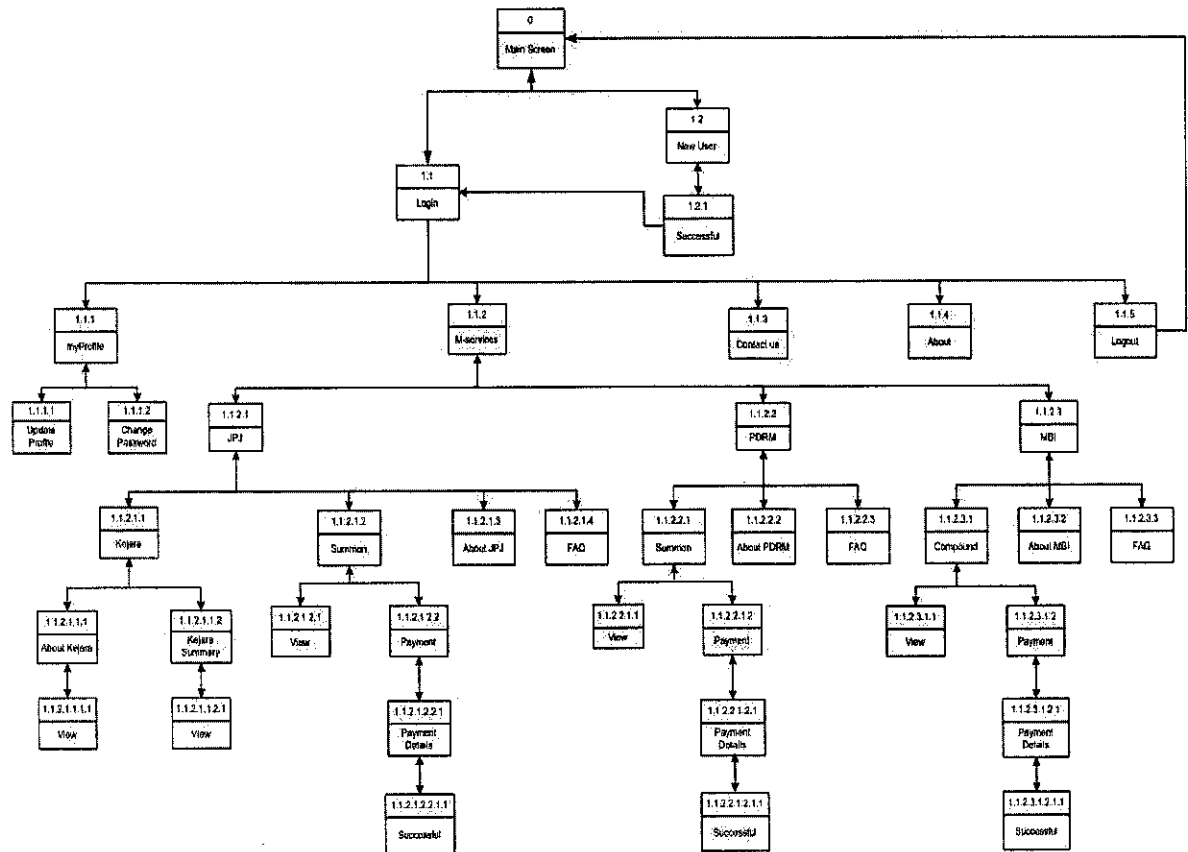


Figure 4.11: MGov dialogue chart

4.8 User Acceptance Test

A user acceptance test has been conducted to identify the acceptance of users towards MGov portal. There are 35 respondents have participated in the test. The questionnaires consists of three sections which is Section A, Section B and Section C. The result of the test will be discussed by the section accordingly.

4.8.1 Section A

35 respondents have participated in user acceptance test. Based on the demographic questions, 13 persons of the respondents are male and another 22 persons are female. Figure 4.12 shows that 57% of the respondents are in the age of 15 to 21 years old and the remaining 43% are in the age of 21 to 40 years old.

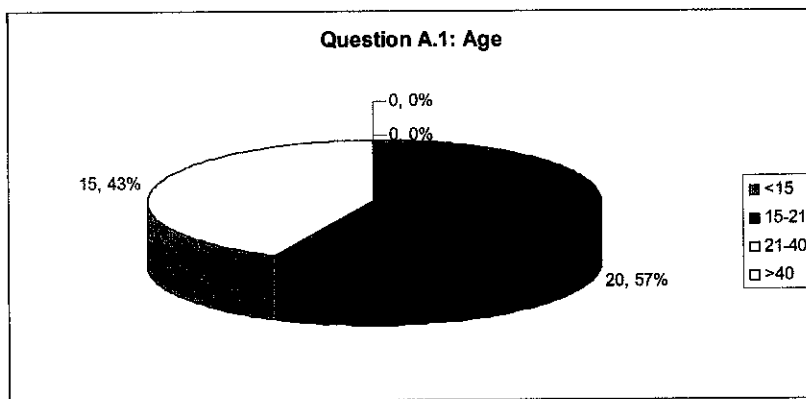


Figure 4.12: Age

Meanwhile, the third question of this section asked the user about their IT background. 15 persons of the respondents have advanced IT background, 11 persons are in average level and another 9 persons of the respondents have basic knowledge in IT.

4.8.2 Section B

In this section, users were asked to rate the evaluation of MGov portal in a scale of 1 (strongly disagree) to 5 (strongly agree). For the first question, respondents were asked regarding the visibility of system status, whether the portal informed the status to the user after performing any transaction. Figure 4.13 shows that 17 persons of the respondents strongly agree that the portal has provided them with indication after they perform any transaction.

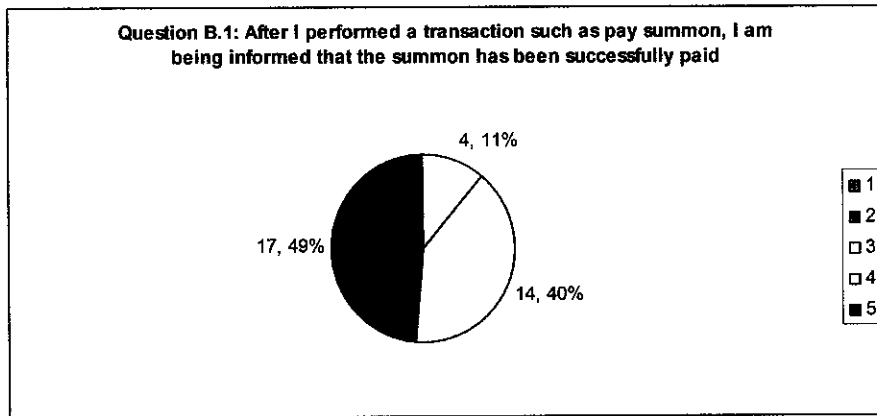


Figure 4.13: Visibility of the system status

As for the question six in the questionnaires, respondents were asked regarding the recognition rather than recall. Figure 4.14 shows that 69% of the respondents are strongly agreed that the portal provides clear hint or direction to the users.

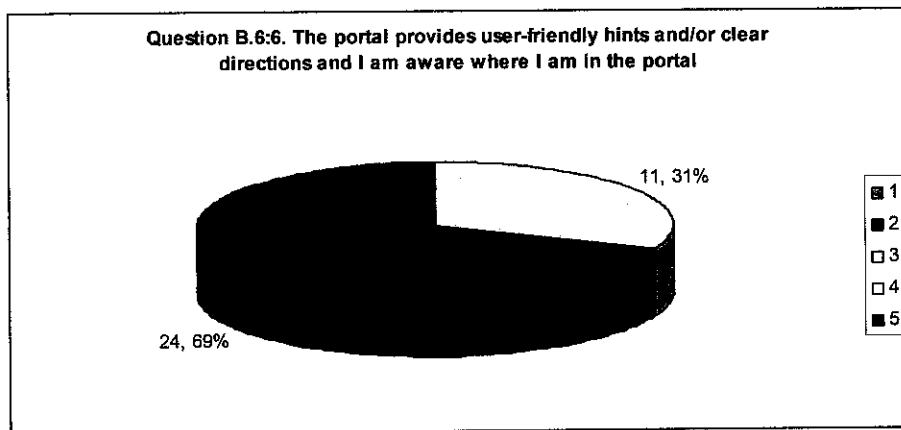


Figure 4.14: Recognition rather than recall.

Another question asked the respondents regarding the flexibility and ease of use of the portal. Figure 4.15 shows that 12 respondents agreed that the features in the portal are easy to be used and 2 of the respondents disagreed. This indicates that not all of the respondents really comfortable with the features provided through mobile application.

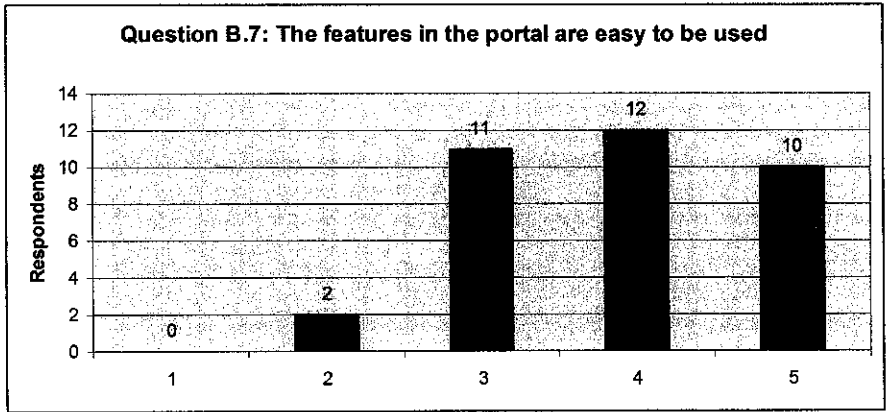


Figure 4.15: Flexibility and ease of use

The last questions in the questionnaires asked regarding the help and documentation. 17 respondents have rated disagree, 11 respondents rated strongly disagree and 4 respondents have rated moderate for the question. This is because the portal did not provide a help page or any documentation that can assist users on how to navigate or use the portal.

4.8.3 Section C

In this section, respondents were asked regarding their acceptance towards MGov portal. Figure 4.16 shows that 17 respondents strongly agreed that this portal provides an effective way to check summonses and 6 of the respondents rated moderate.

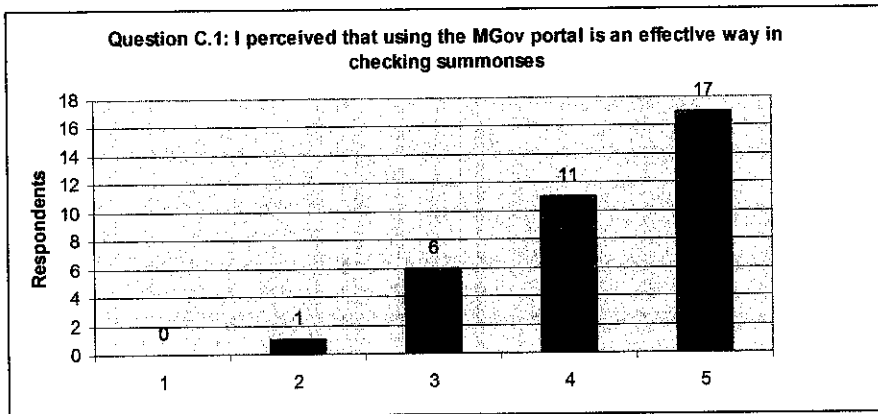


Figure 4.16: Effectiveness of the portal for check summonses

The second question in the questionnaire asked respondents regarding their acceptance regarding the effectiveness of payment via this portal. From Figure 4.17, 37% of the respondents agreed that this portal provides an effective way to pay summon and only 3% of the respondents disagree with the statement. This might indicate that not all users are confident to risk their money to pay summon using mobile phone.

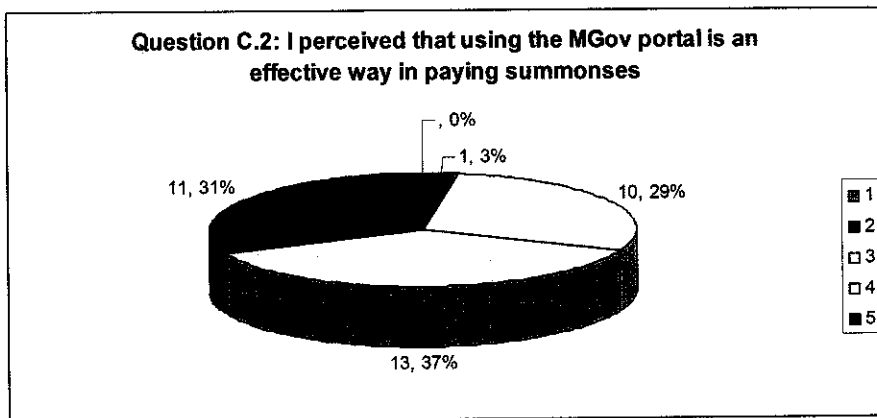


Figure 4.17: Effectiveness of the portal for summonses payment.

The other question asked in the questionnaire is regarding the information provided in the portal. Figure 4.18 shows that 56% of the respondents strongly agreed that information provided in the portal has made them easier to get the latest information regarding the government's agencies.

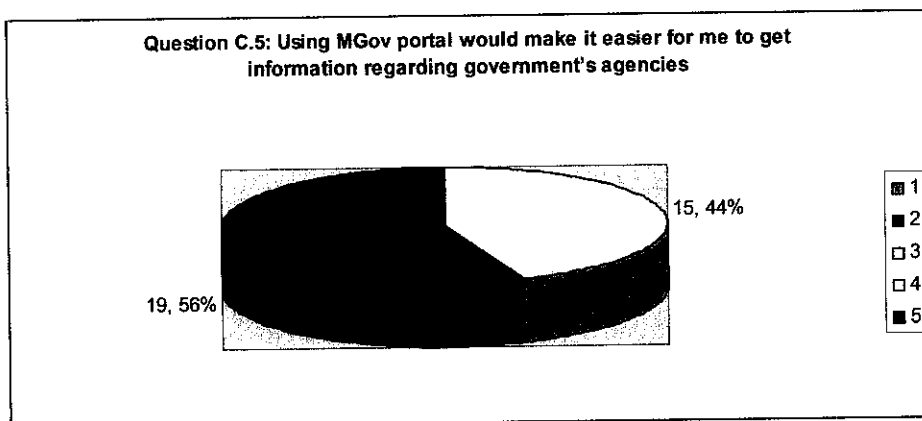


Figure 4.18: Effectiveness of the information provided in the MGov portal.

4.8.4 Conclusion of User Acceptance Test

Basically for the overall results of the questionnaires respondents as a group have give positive attitudes and perceptions towards MGov portal. The main strength of the portal is it provides an effective ways for citizens to check and pay summonses. Other than that as a group 56% of the respondents has rated 5 which is strongly agree that the portal has help them to get information regarding government's agencies. But the main weakness of MGov portal is it did not provide a help page to assist user to navigate or use the portal. This feature should be one of the future enhancements for the portal.

CHAPTER 5: CONCLUSION

Wireless technology creates the opportunity to the government to improve the communication with the public. Residents also can get better services and updated information from the government. By capturing information where it is generated and by accessing it where it is needed, processes can operate more efficiently and more effectively. Keeping this simple principle in mind will help to identify the application areas of greatest potential.

Nowadays, mobile government (m-government) services already applied by our country. But the existing services such as check summon status, voting status and UPU-SMS are using Short Message Services (SMS) based. The SMS based has a few limitations like SMS can transmit up to 160 characters only and do not has user interface (UI). Because of the limitation it makes the current system only suitable for notification services. As the alternative to overcome the weaknesses of the current system, this project will develop a new m-government portal.

Before introducing a new wireless application to the citizens, a survey has been conducted to identify the awareness and the level of citizen acceptance towards m-government services. 190 respondents have participated in the survey. Based on the survey results, we can conclude that m-government services are generally accepted and the result also shows the fact that offering public services via wireless connection are important.

The new m-government portal or known as MGov portal will be developed incrementally phase by phase. The waterfall model will be used as the methodology of this project. The project starts with the requirement analysis and specification, followed by system and software design, implementation and unit testing and the last phase is integration and system testing. Three government agencies have been selected to provide transactional-based services via MGov portal. The selected

agencies are Jabatan Pengangkutan Jalan (JPJ), Polis DiRaja Malaysia (PDRM) and Majlis Bandaraya Ipoh (MBI).

MGov portal is specifically designed for local citizen who has mobile phone with GPRS connection. Through the portal, citizen can get the updated information regarding selected government agencies and perform transactions such as checks summon and pay summon directly from the portal. MGov portal is aimed to improve the communication between citizen and government, to provide better transactional-based services and make the basic information available anytime and anywhere.

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APPENDICES

Appendix 1: Survey Questions

Tajuk/Title : M-Government
Disediakan oleh/ Prepared by : Noor Arina bt Noor Adnan
e-mell/e-mail : arina.adnan@gmail.com

Pendahuluan/ Preface:

Kerajaan Malaysia telah melangkah ke hadapan menuju ke era teknologi tanpa wayar seiring dengan perkembangan Teknologi Informasi dan Komunikasi (ICT) di Malaysia. Menyedari permintaan untuk mempunyai kerajaan yang lebih baik, lebih efisien dan lebih berkesan, Kerajaan Malaysia telah memperkenalkan kewujudan 'perkhidmatan kerajaan di internet melalui telefon bimbit' atau dikenali sebagai m-government supaya dapat menawarkan informasi dan perkhidmatan secara 'online' kepada rakyat, agensi-agensi kerajaan, perniagaan dan lain-lain. M-government adalah subset kepada 'perkhidmatan kerajaan di Internet' atau lebih dikenali sebagai e-government. M-government dapat membantu informasi awam dan perkhidmatan kerajaan diperolehi oleh rakyat pada bila-bila masa dan dimana jua.

Tujuan kaji selidik ini diadakan adalah untuk mengetahui tahap penerimaan masyarakat Malaysia terhadap inisiatif m-kerajaan yang diperkenalkan oleh Kerajaan Malaysia, serta mengenal pasti punca-punca yang menyebabkan masyarakat kurang menggunakan perkhidmatan m-kerajaan yang disediakan. Kajiselidik ini mengandungi empat seksyen, iaitu Seksyen A, Seksyen B, Seksyen C dan Seksyen D. Anda dikehendaki menjawab soalan pada keempat-empat seksyen tersebut.

Malaysian Government has moved forward to the era of wireless technology along with the growth of Information Communication Technology (ICT) in Malaysia. Realizes that the demand for better, more efficient and more effective government, Malaysian Government has pursued 'government services on internet via mobile phone' or known as m-government initiatives to offer more information and online services to citizens, government agencies, business and others. M-government is a subset of 'government services on the internet' or better known as e-government. M-government can help make public information and government services available anytime and anywhere to citizens.

The objective of this survey is to study the acceptance of Malaysian citizens towards the m-government initiatives as well as determining the factors causing low usage of m-government services among the citizens. This survey consists of four sections, which is Section A, Section B, Section C and Section D. Respondent are required to answer all sections.

Seksyen A: Latar Belakang Responden
Section A: Respondent's Background

Arahan/ Instruction

Sila tandakan [x] di kotak yang disediakan/
Please tick [x] in the box given.

1. *Lingkungan umur/Age range*

<input type="checkbox"/>	15 – 20 tahun/years	<input type="checkbox"/>	41 – 45 tahun/years
<input type="checkbox"/>	21 - 25 tahun/years	<input type="checkbox"/>	46 – 50 tahun/years
<input type="checkbox"/>	26 – 30 tahun/years	<input type="checkbox"/>	51 – 55 tahun/years
<input type="checkbox"/>	31 – 35 tahun/years	<input type="checkbox"/>	56 – 60 tahun/years
<input type="checkbox"/>	36 – 40 tahun/years	<input type="checkbox"/>	> 60 tahun/years

2. *Jantina/Gender*

<input type="checkbox"/>	<i>Lelaki / Male</i>	<input type="checkbox"/>	<i>Perempuan / Female</i>
--------------------------	----------------------	--------------------------	---------------------------

3. *Bangsa/Race*

<input type="checkbox"/>	<i>Melayu / Malay</i>	<input type="checkbox"/>	<i>India / Indian</i>
<input type="checkbox"/>	<i>Cina / Chines</i>	<input type="checkbox"/>	<i>Lain-lain / Others</i>

4. *Kategori pekerjaan/Employment Category*

<input type="checkbox"/>	<i>Perbankan atau kewangan / Banking or finance</i>
<input type="checkbox"/>	<i>Pengurusan / Administration</i>
<input type="checkbox"/>	<i>Sektor pendidikan / Education sector</i>
<input type="checkbox"/>	<i>Eksekutif / Executive</i>
<input type="checkbox"/>	<i>Perniagaan / Business</i>
<input type="checkbox"/>	<i>Pelajar / Student</i>
<input type="checkbox"/>	<i>Ditanggung oleh pasangan / Supported by partner</i>
<input type="checkbox"/>	<i>Lain-lain (sila nyatakan) / Others (please specific) :</i> <hr style="width: 50%; margin-left: 0;"/>

5. *Di negeri manakah anda sedang bekerja/belajar pada masa ini/*
Which state are you currently working/studying in?

Seksyen B: Penggunaan Internet

Section B: Internet Usage

Arahan/ Instruction

Sila tandakan [x] di kotak yang disediakan!

Please tick [x] in the box given.

1. *Sekerap manakah anda menggunakan perkhidmatan Internet!*

How frequent do you utilize Internet connection?

1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
<i>Langsung tidak/</i> Never	<i>Jarang/</i> Rarely	<i>Sederhana/</i> Moderately	<i>Kerap/</i> Frequent	<i>Sangat Kerap/</i> Very frequent

2. *Apakah tujuan utama anda menggunakan Internet!*

What is your main reason using Internet?

<input type="checkbox"/>	<i>Pelajaran / Education</i>
<input type="checkbox"/>	<i>Kerja / Occupation</i>
<input type="checkbox"/>	<i>Mengisi masa lapang / Leisure</i>
<input type="checkbox"/>	<i>Hiburan / Entertainment</i>
<input type="checkbox"/>	<i>Lain-lain (sila nyatakan) / Others (Please justify) :</i> _____

3. *Dimanakah anda selalu menggunakan Internet!*

Where do you usually access Internet?

<input type="checkbox"/>	<i>Rumah / Home</i>
<input type="checkbox"/>	<i>Tempat kerja / Work place</i>
<input type="checkbox"/>	<i>Kafe siber / Cyber Café</i>
<input type="checkbox"/>	<i>Sekolah / School</i>
<input type="checkbox"/>	<i>Lain-lain (Sila nyatakan) / Others (Please specify) :</i> _____

Seksyen C: Pkhidmatan Khidmat Kerajaan melalui Internet
Section C: Use of Government Services via Internet

Arahan/ Instruction

Sila tandakan [x] di kotak yang disediakan!
 Please tick [x] in the box given.

1. *Lazimnya, bagaimanakah anda menghubungi pejabat atau pegawai kerajaan!*
 How do you normally make contacts with government office or officer?

<input type="checkbox"/>	<i>Telefon / Phone</i>
<input type="checkbox"/>	<i>Bersemuka / In person</i>
<input type="checkbox"/>	<i>Surat menyurat / Letter</i>
<input type="checkbox"/>	<i>Emel / E-mail</i>
<input type="checkbox"/>	<i>Lain-lain (Sila nyatakan) / Others (Please specify):</i> _____

2. *Adakah anda menyedari wujudnya perkhidmatan kerajaan melalui Internet (e-kerajaan) di Malaysia!*
 Are you aware of government services through Internet (e-government) initiatives in Malaysia?

<input type="checkbox"/>	<i>Ya / Yes</i>	<input type="checkbox"/>	<i>Tidak / No</i>
--------------------------	-----------------	--------------------------	-------------------

(Jika jawapan anda tidak, sila abaikan soalan 3 hingga soalan 7 dan teruskan ke soalan di Seksyen D /
 If your answer is no, skip question 3 to question 7 and proceed to questions in Section D)

3. *Pernahkah anda melayari myGovernment, sebuah portal rasmi Kerajaan Malaysia!*
 Have you browsed myGovernment, an official Malaysia Government portal?

<input type="checkbox"/>	<i>Ya / Yes</i>	<input type="checkbox"/>	<i>Tidak / No</i>
--------------------------	-----------------	--------------------------	-------------------

4. *Pernahkah anda menggunakan perkhidmatan e-kerajaan!*
 Have you ever used any of e-Government services?

<input type="checkbox"/>	<i>Ya / Yes (sila nyatakan perkhidmatan yang digunakan dan sebab/ please state which service was used and the reason):</i> _____ _____
<input type="checkbox"/>	<i>Tidak / No (sila jelaskan sebab anda/ justify your reason):</i>

5. *Apakah perkhidmatan e-kerajaan yang pernah anda gunakan/*
 What kind of e-government services has you use?

	Real-time Traffic Info System (Dewan Bandaraya Kuala Lumpur)
	e-Perkhidmatan (Suruhanjaya Perkhidmatan Awam)
	e- Aduan (Kementerian Perdagangan Dalam Negeri dan Hal Ehwal Pengguna)
	e- Perolehan (Kementerian Kewangan Malaysia)
	Online membership registration (Perpustakaan Awam Negara Malaysia)
	Cataloguing-in-Publication System (Perpustakaan Awam Negara Malaysia)
	<i>Melayari mana-mana laman web agensi kerajaan untuk mendapatkan maklumat/</i> Browsing any government agencies website for information
	<i>Tiada/ None</i>
	<i>Lain-lain (Sila nyatakan) / Others (Please specify):</i> _____

6. *Apakah maklumat yang anda perlukan di dalam laman web e-kerajaan/*
 What kind of information are you looking for in the e-government website?

	<i>Panduan / Directory</i>
	<i>Informasi dan polisi / Information and Policies</i>
	<i>Perkhidmatan / Services</i>
	<i>Jentera Kerajaan/ Government machinery</i>
	<i>Peluang pekerjaan / Job vacancies</i>
	<i>Aduan Awam/ Public complaints</i>
	<i>Tender Kerajaan/ Government tender</i>
	<i>Cuaca/ Weather</i>
	<i>Maklum balas atau pertanyaan/ Promotion and transfers</i>

7. *Apakah perkhidmatan e-kerajaan yang anda rasakan paling penting/*
 What e-government services that is most useful to you?

	Biro Pengaduan Awam
	Dewan Bandaraya Kuala Lumpur
	Kementerian Kewangan Malaysia
	Kementerian Perdagangan Dalam Negeri dan Hal Ehwal Pengguna
	Kumpulan Wang Simpanan Pekerja
	Polis DiRaja Malaysia
	Suruhanjaya Perkhidmatan Awam
	<i>Lain-lain (Sila nyatakan) / Others (Please specify):</i> _____

Seksyen D: Penggunaan Perkhidmatan Kerajaan Melalui Telefon Bimbit
Section D: Use of Government Services via Mobile Phone

Arahan/ Instruction

Sila tandakan [x] di kotak yang disediakan!

Please tick [x] in the box given.

1. *Adakah anda menyedari wujudnya perkhidmatan Kerajaan melalui telefon bimbit (m-kerajaan) di Malaysia!*
 Are you aware of government services through mobile phone (m-government) initiatives in Malaysia?

<input type="checkbox"/> Ya / Yes	<input type="checkbox"/> Tidak / No
-----------------------------------	-------------------------------------

(Jika jawapan anda tidak, sila abaikan soalan 2 dan teruskan ke soalan 3)
 If your answer is no, skip question 2 and proceed to question 3)

2. *Dari manakah anda pertama kali mengetahui wujudnya perkhidmatan m-kerajaan di Malaysia!*
 How did you first know about m-government initiatives in Malaysia?

<input type="checkbox"/>	Televisyen / Television
<input type="checkbox"/>	Radio / Radio
<input type="checkbox"/>	Majalah/ Magazine
<input type="checkbox"/>	Rakan / Friend
<input type="checkbox"/>	Internet / Internet
<input type="checkbox"/>	Lain-lain (Sila nyatakan) / Others (Please specify): _____

3. *Bagaimanakah tahap kefahaman anda mengenai konsep m-government di Malaysia!*
 How far is your understanding with regards to m-government concept in Malaysia?

1 []	2 []	3 []	4 []	5 []
<i>Tidak faham langsung/</i> Don't understand at all	<i>Sedikit /</i> A little	<i>Sederhana/</i> Moderate	<i>Faham/</i> Understand	<i>Sangat Faham/</i> Really understand

4. *Pernahkan anda menggunakan perkhidmatan m-kerajaan? (contoh: semak saman, pembayaran bil)*
 Have you used any of m-government services? (e.g. check summon, bill payment)

<input type="checkbox"/> Ya / Yes	<input type="checkbox"/> Tidak / No
-----------------------------------	-------------------------------------

(Jika jawapan anda tidak, sila abaikan soalan 5 dan teruskan ke soalan 6)

If your answer is no, skip question 5 and proceed to question 6)

5. *Apakah perkhidmatan kerajaan yang pernah anda gunakan melalui telefon bimbit?*
What kind of government services you have used through mobile phone?

	<i>Semak saman trafik/</i> Check traffic summon (Polis DiRaja Malaysia)
	<i>Semak status PLKN /</i> Check PLKN status (Jabatan Latihan Khidmat Negara)
	<i>Semak status mengundi/</i> Check voting status (Suruhanjaya Pilihanraya Malaysia)
	SMS KWSP (Kumpulan Wang Simpanan Pekerja)
	Rakan COP (Polis DiRaja Malaysia)
	UPU-SMS (Kementerian Pengajian Tinggi Malaysia)
	<i>Lain-lain (Sila nyatakan) /</i> Others (Please specify): _____

6. *Sila nilai dari skala 1 hingga 5 akan kepentingan ciri-ciri tersebut terhadap m-kerajaan!*

In a scale of 1 to 5, please rate the importance of the following criteria's toward m-government.

- i. *Mudah untuk mendapatkan maklumat dari laman m-kerajaan!*
Ease of accessing the information from the m-government web

1 []	2 []	3 []	4 []	5 []
<i>Tidak penting/</i> Unimportant	<i>Penting sedikit/</i> Of little importance	<i>Sederhana</i> <i>penting/</i> Moderately important	<i>Penting/</i> Important	<i>Sangat</i> <i>penting/</i> Very important

- ii. *Keberkesanan maklumat yang diperolehi dari laman m-kerajaan!*
Effectiveness of the information provided from m-government web

1 []	2 []	3 []	4 []	5 []
<i>Tidak penting/</i> Unimportant	<i>Penting sedikit/</i> Of little importance	<i>Sederhana</i> <i>penting/</i> Moderately important	<i>Penting/</i> Important	<i>Sangat</i> <i>penting/</i> Very important

- iii. *Memperolehi mutu perkhidmatan yang berkualiti tinggi!*
Obtaining a high quality of services

1 []	2 []	3 []	4 []	5 []
<i>Tidak penting/</i> Unimportant	<i>Penting sedikit/</i> Of little importance	<i>Sederhana</i> <i>penting/</i> Moderately important	<i>Penting/</i> Important	<i>Sangat</i> <i>penting/</i> Very important

- iv. *Menawarkan perkhidmatan berkaitan ekonomi!*
Offering economic related services

1 []	2 []	3 []	4 []	5 []
<i>Tidak penting/</i> Unimportant	<i>Penting sedikit/</i> Of little importance	<i>Sederhana</i> <i>penting/</i> Moderately important	<i>Penting/</i> Important	<i>Sangat</i> <i>penting/</i> Very important

- v. *Menawarkan perkhidmatan berkaitan kesihatan /*
Offering health related services

1 []	2 []	3 []	4 []	5 []
<i>Tidak penting/</i> Unimportant	<i>Penting sedikit/</i> Of little importance	<i>Sederhana</i> <i>penting/</i> Moderately important	<i>Penting/</i> Important	<i>Sangat</i> <i>penting/</i> Very important

- vi. *Menawarkan perkhidmatan berkaitan sosial /*
Offering social related services

1 []	2 []	3 []	4 []	5 []
<i>Tidak penting/</i> Unimportant	<i>Penting sedikit/</i> Of little importance	<i>Sederhana</i> <i>penting/</i> Moderately important	<i>Penting/</i> Important	<i>Sangat</i> <i>penting/</i> Very important

- vii. *Menawarkan perkhidmatan berkaitan pendidikan /*
Offering education related services

1 []	2 []	3 []	4 []	5 []
<i>Tidak penting/</i> Unimportant	<i>Penting sedikit/</i> Of little importance	<i>Sederhana</i> <i>penting/</i> Moderately important	<i>Penting/</i> Important	<i>Sangat</i> <i>penting/</i> Very important

- viii. *Menawarkan perkhidmatan berkaitan pertanian/alam sekitar/*
Offering agriculture/environment related services

1 []	2 []	3 []	4 []	5 []
<i>Tidak penting/</i> Unimportant	<i>Penting sedikit/</i> Of little importance	<i>Sederhana</i> <i>penting/</i> Moderately important	<i>Penting/</i> Important	<i>Sangat</i> <i>penting/</i> Very important

7. *Sila nilai penerimaan anda dari skala 1 hingga 7 terhadap perkhidmatan m-kerajaan di dalam kehidupan anda seharian/*

In a scale of 1 to 7, please rate the acceptance of the m-government towards your daily life activities.

- i. *Saya mendapati bahawa perkhidmatan m-kerajaan sangat berguna dalam aktiviti harian saya!*
I would find m-government services useful in my daily life activities.

1 []	2 []	3 []	4 []	5 []	6 []	7 []
<i>Sangat tidak munasabah!</i>		<i>Tidak munasabah!</i>		<i>Munasabah/ Likely</i>		<i>Sangat munasabah!</i>
Very unlikely		Unlikely				Very likely

- ii. *Dengan menggunakan perkhidmatan m-kerajaan, ia dapat memudahkan saya mendapatkan informasi tentang agensi-agensi kerajaan!*
Using m-government service would make it easier for me to get information regarding government's agencies.

1 []	2 []	3 []	4 []	5 []	6 []	7 []
<i>Sangat tidak munasabah!</i>		<i>Tidak munasabah!</i>		<i>Munasabah/ Likely</i>		<i>Sangat munasabah!</i>
Very unlikely		Unlikely				Very likely

- iii. *Dengan menggunakan perkhidmatan m-kerajaan, saya dapat memperbaiki mutu komunikasi dengan mana-mana agensi kerajaan!*
Using m-government services, would improve my communication with any government agencies.

1 []	2 []	3 []	4 []	5 []	6 []	7 []
<i>Sangat tidak munasabah!</i>		<i>Tidak munasabah!</i>		<i>Munasabah/ Likely</i>		<i>Sangat munasabah!</i>
Very unlikely		Unlikely				Very likely

- iv. *Dengan menggunakan perkhidmatan m-kerajaan, ia dapat membantu saya menunaikan kewajipan sebagai seorang rakyat yang bertanggungjawab!* Using m-government services would help me deliver my duty as a responsible citizen

1 []	2 []	3 []	4 []	5 []	6 []	7 []
<i>Sangat tidak munasabah!</i>		<i>Tidak munasabah!</i>		<i>Munasabah/ Likely</i>		<i>Sangat munasabah!</i>
Very unlikely		Unlikely				Very likely

**Soalan kajiselidik tamat. Terima kasih atas kerjasama yang diberikan.
End of questionnaire. Thank you very much for your cooperation.**

Appendix 2: User Acceptance Test Questions

Title : M-Government
 Prepared by : Noor Arina bt Noor Adnan
 E-mail : arina.adnan@gmail.com

This questionnaire consists of 3 sections, which is Section A, Section B and Section C. Respondent are required to answer all sections.

Section A: Respondent’s Background

Instruction

Please tick [x] in the box given.

- Age range

<input type="checkbox"/>	Below 15 years old
<input type="checkbox"/>	Between 15 to 21 years old
<input type="checkbox"/>	Between 21 to 40 years old
<input type="checkbox"/>	Above 40 years old

- Gender

<input type="checkbox"/>	Male	<input type="checkbox"/>	Female
--------------------------	------	--------------------------	--------

- Choose answer that best describes your IT background

<input type="checkbox"/>	Advance
<input type="checkbox"/>	Average
<input type="checkbox"/>	Basic

Section B: MGov Portal Evaluation

Instruction

Please tick [x] in the box given.

- After I performed a transaction such as pay summon, I am being informed that the summon has been successfully paid.

1 [] 2 [] 3 [] 4 [] 5 []
 Strongly disagree Disagree Moderate Agree Strongly agree

- I am familiar with the words, phrases and concept used in this portal.

1 [] 2 [] 3 [] 4 [] 5 []
 Strongly disagree Disagree Moderate Agree Strongly agree

3. MGov portal allows me to move around in the portal in an unambiguous manner.

1 [] 2 [] 3 [] 4 [] 5 []
Strongly disagree Disagree Moderate Agree Strongly agree

4. In a scale of 1 to 5, please rate the consistency of the MGov portal in term of the page layout, colors and label.

1 [] 2 [] 3 [] 4 [] 5 []
Strongly disagree Disagree Moderate Agree Strongly agree

5. I am being provided with an error message if there are any error happened in the portal.

1 [] 2 [] 3 [] 4 [] 5 []
Strongly disagree Disagree Moderate Agree Strongly agree

6. The portal provides user-friendly hints and/or clear directions and I am aware where I am in the portal.

1 [] 2 [] 3 [] 4 [] 5 []
Strongly disagree Disagree Moderate Agree Strongly agree

7. The features in the portal are easy to be used.

1 [] 2 [] 3 [] 4 [] 5 []
Strongly disagree Disagree Moderate Agree Strongly agree

8. The information provided in the pages is sufficient for me to perform the tasks needed.

1 [] 2 [] 3 [] 4 [] 5 []
Strongly disagree Disagree Moderate Agree Strongly agree

9. If there is an error that I made during navigation, the portal will inform me the error and how to solve the error.

1 [] 2 [] 3 [] 4 [] 5 []
Strongly disagree Disagree Moderate Agree Strongly agree

10. The portal provides a help page to assist me when I am in difficulties.

1 [] 2 [] 3 [] 4 [] 5 []
Strongly disagree Disagree Moderate Agree Strongly agree

Section C: MGov Portal Acceptance

Instruction

Please tick [x] in the box given.

1. I perceived that using the MGov portal is an effective way in checking summonses.

1 Strongly disagree 2 Disagree 3 Moderate 4 Agree 5 Strongly agree

2. I perceived that using the MGov portal is an effective way in paying summonses.

1 Strongly disagree 2 Disagree 3 Moderate 4 Agree 5 Strongly agree

3. I perceived that MGov is important in helping the citizens to perform the required transactions easily.

1 Strongly disagree 2 Disagree 3 Moderate 4 Agree 5 Strongly agree

4. I perceived that MGov portal is easy to use.

1 Strongly disagree 2 Disagree 3 Moderate 4 Agree 5 Strongly agree

5. Using MGov portal would make it easier for me to get information regarding government's agencies.

1 Strongly disagree 2 Disagree 3 Moderate 4 Agree 5 Strongly agree

6. Using MGov portal, would improve my communication with selected government agencies.

1 Strongly disagree 2 Disagree 3 Moderate 4 Agree 5 Strongly agree

End of questionnaire. Thank you very much for your cooperation.

Appendix 3: Screenshot of MGov portal

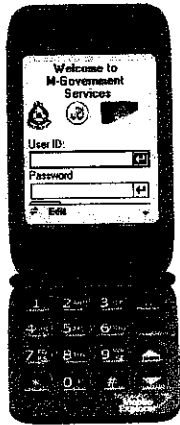


Figure 1: Login Page

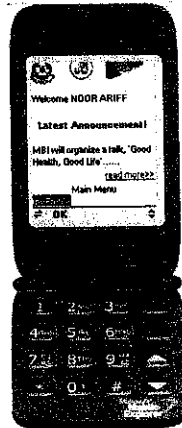


Figure 2: Main Page

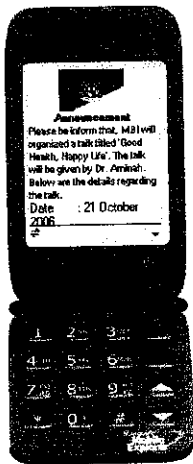


Figure 3: Announcement

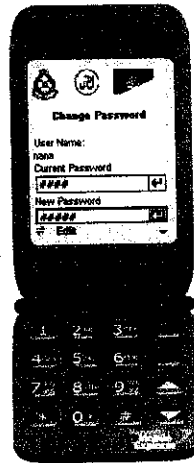


Figure 4: Change Password

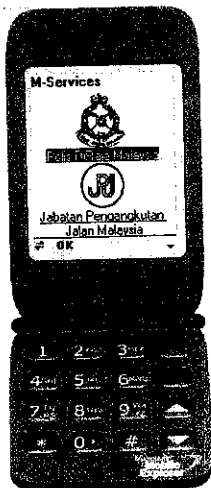


Figure 5: M-services

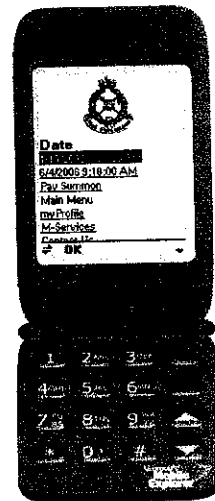


Figure 6: View Summon

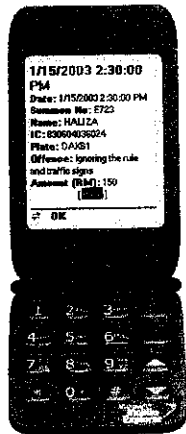


Figure 7: Summon details

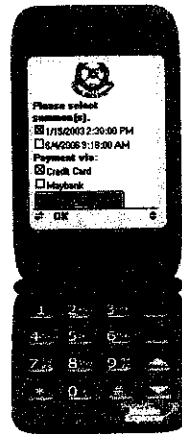


Figure 8: Select Summon

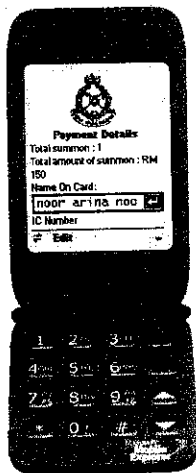


Figure 9: Payment Details (Credit Card)

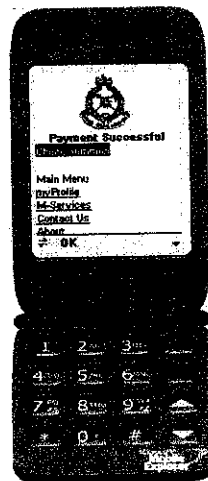


Figure 10: Payment Success