BORANG PENGESAHAN STATUS TESIS*

JUDUL: SUMMON MANAGEMENT SYSTEM

SESI PENGAJIAN: 2/2008

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SUMMON MANAGEMENT SYSTEM

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This report is submitted in partial fulfillment of the requirements for the
Bachelor of Computer Science (Computer Networking)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2008

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DECLARATION

I hereby declare that this project report entitled

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STUDENT : _____ Date: 2 MEI 2008

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DEDICATION

Specially dedicated to my beloved parents,
Mr. Md. Zain B. Ariffin and Mrs. Arpah Bt. Mohammad

For my lecturer and supervisor,
Mrs. Aslinda Bt. Hassan At Universiti Teknikal Malaysia Melaka (UTeM)

And lastly to my entire friends who have encouraged,
guided and inspired me throughout my journey of education

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I would also like to thank my friends in helping me to develop this project. I am also grateful for their help and valuable time of learning processes that we shared throughout the development of this project.

Last but not least, I would like to thanks those who are not mention here but have directly or indirectly helping and guiding me towards completing my Projek Sarjana Muda ; your effort and time are much appreciated.

On a more personal note, I wish to thank my family members and friends that have given me moral support and encouragement throughout this project. Without all of them that I mentioned, I would not be able to undergo my PSM successfully. All the experience and knowledge that I have gained are their efforts and time spent.

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ABSTRACT

This thesis is discussing the development of a system that uses short message service (SMS) and named as Summon Management System. SMS is used widely by mobile phone users. The system is developed for the local authorities in managing summons processes. The officers will send an SMS to the system about the vehicle that has been summoned and the data about that summon will be kept in Microsoft SQL Server that function as the database. When the vehicle owner want to check the vehicle status, an SMS contain the vehicle registration number needs to be sent to the system. System will check in the database and provide reply to the sender contain the summon status and payment penalty instantly via auto reply. System also will provide the total penalty payment for accumulated summons in the reply message.

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ABSTRAK

Tesis ini membincangkan proses-proses dalam pembangunan sebuah sistem yang menggunakan Khidmat Pesanan Ringkas (SMS) dan dinamakan sebagai Summon Management System. SMS telah digunakan secara meluasnya oleh pengguna telefon bimbit. Sistem ini dibangunkan untuk Pihak Berkuasa Tempatan (PBT) dalam menguruskan proses-proses saman. Pegawai PBT akan menghantar SMS kepada sistem tentang kenderaan yang telah disaman dan data mengenai saman tersebut akan disimpan di dalam Microsoft SQL Server yang berfungsi sebagai pangkalan data. Apabila pemilik kenderaan hendak menyemak status kenderaannya, SMS yang mengandungi nombor pendaftaran kenderaan perlu dihantar kepada sistem. Sistem akan menyemak daripada pangkalan data dan akan membalas mesej tersebut mengandungi status saman dan pembayaran penalti dengan serta-merta secara balas-automatik. Sistem juga menyediakan jumlah pembayaran penalti untuk saman-saman yang terkumpul.

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LIST OF ABBREVIATIONS

TERM		DEFINITION
SMS	-	Short Message Service
SMSC	-	Short Message Service Centre
JPJ	-	Jabatan Pengangkutan Jalan
PDRM	-	Polis Diraja Malaysia
UPM	-	Universiti Putra Malaysia
GSM	-	Global System for Mobile Communication
OS	-	Operating System
API	-	Application Programming Interfaces
DFD	-	Data Flow Diagram
SDLC	-	Software Development Life Cycle
SQL	-	Structured Query Language
VB	-	Microsoft Visual Basic

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CHAPTER I

INTRODUCTION

1.1 Project Background

This project is known as Summon Management System that functions using short message service (SMS). It is developed for any local authorities that is authorized to issue summon and the road users to check the summon status. At present, local authorities does not provide an SMS system for road users to check their summon status and road users only know they have been summon when they receive the warning letter. The situation can get worse if the summon ticket is lost and users do not know that they have been summon.

This system also will be used by local authorities officers in giving summon. This is something new in mobile interactive for business platform. It is simple-to-use software that paves way for immediate two-way communication between the local authorities and the highly mobile citizens of today. According to New Straits Time, 14 Nov 2006, currently there are some 21 million hand phone users in Malaysia and send an average of 83.9 million SMS per day. So, by using mobile interactive as a selling and loyalty tool, the local authorities can keep in contact with this vast mass of buying power.

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Through this system, road users or vehicle owners do not need to go to the local authorities' office to check their vehicle status anymore. The SMS application allows road users to check their summon status and can help users pay the fine at minimum price and avoid them being sued by court.

1.2 Problem Statement

Summon means to call upon for specified action. Summon by local authorities is for road users to come to the local authorities' counters and pay the fine as soon as possible. If the summon is settled in the specified period, the users can get discount of the fine. But, if the summon ticket is lost; users only realized they have been summoned after they receive the warning letter from the local authorities. So, they need to pay at maximum penalty. By using this system, users can get information about their vehicle status instantly.

At present, any local authorities in Malaysia do not have the SMS system for officers in authorize summons and road users or vehicle owners to check their vehicle status. Local authorities also need to key in the information about vehicles been summoned manually to the database. Through this system, local authorities' officers can key in the information of the summon by SMS.

1.3 Objective

The objectives of this project:

- To develop a system for road users to check their summons status by local authorities using short message service (SMS).

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- To develop a system for local authorities officers to key in the data of vehicle that has been summon by using SMS.
- To provide summon status and the payment penalty instantly via auto reply.
- To provide the total penalty payment for accumulated summons.

1.4 Scope

This project is developing for road user to check if they have any summon from the local authorities. The user can send request via short message service (SMS) using their vehicle registration number to the system. The system will automatically reply the SMS with the status of the user's vehicle. This system also will use by local authorities officers in authorizing summon. The officers will send SMS to the system about the data of the vehicle been summon. So, the data will save in the system for users to check their summon status later.

1.5 Project Significance

There are several benefit and significance of this proposed project. The result of this project is beneficial to the local authorities and road users or vehicle owners whereby using SMS would allow them to manage the summons efficiently. By using SMS, local authorities can key in the summon information faster and more secure. The benefit of this system also will gain by the road user and vehicle owners where they can check the vehicle status instantly.

This system is hoped to help local authorities staffs in updating and maintaining the summon excerpt from road users.

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1.6 Expected Output

Through Summon Management System, the expected output is based on the operation of the system. This system will receive information about vehicles been summon by the local authorities via SMS from the officers and all the information will keep in the database. When the road users or vehicle owners send the request via SMS to the system for checking their vehicle status, system will provide the information instantly via auto reply service. Besides that, the system also will accumulate and calculate total of the summons.

1.7 Conclusion

For the conclusion, this project is about to develop a system that using Short Message Service (SMS) to manage summons, and named Summon Management System. This system is develop for any local authorities that is authorize to issue summon to key in the information about vehicles been summon faster and more secure. This system also will give benefit to road users and vehicle owners in checking their vehicle status. At present, vehicle owners need to go to the local authorities office to check their vehicle status whether they are summoned by local authorities. The owners need to check because normally the summon ticket are lost.

Chapter 1 is important because in this chapter, all characteristic about project overview will describe in detail. In this chapter also describe the objective, scope, problem statements, project significance and expected output that should define to develop this project successfully.

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CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

The intention of this chapter is to present a selected literature review, which is very important for the research. In this chapter, every project development includes discussion of the methodology used. In this study the methods is consist of the compatibility development process.

For all needs and requirement to accomplish this project, there are a number of steps need to be followed and completed through the sources such as seeking information through internet and reference books. All information assembled will be an orientation in developing this project.

Project methodology is important to make sure the validity and accuracy of the results that are obtain through this project. The methodology should result in a good quality that meets user expectations, within time, works effectively and as planned in preliminary phase.

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2.2 Fact and Finding

It is important to well understand about the concept of short message service (SMS) application system before this project can be developed. Some researches have been done to understand the concept of SMS application system.

2.2.1 Case Study

Figure 2.1 below shows the network diagram architecture of the GSM network. The GSM network is composed of several functional entities, whose functions and interfaces are specified. In the figure shows the layout of a generic GSM network. The GSM network can be divided into three broad parts. The subscriber carries the mobile station. The base station subsystem is the main part of which is the Mobile service Switching Center (MSC) performs the switching of calls between the mobile users and between mobile and fixed network users. The MSC also handles the mobility management operations. Not shown is the operations and maintenance center, which oversees the proper operation and setup of the network. The mobile station and the base station subsystem communicate with the MSC across the A interface.

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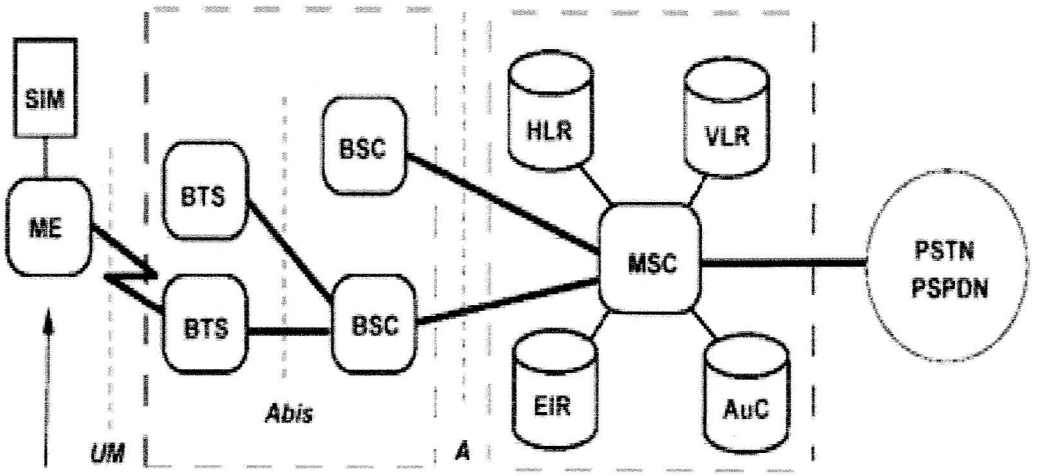

Figure 2.1: Architecture of the GSM Network

2.2.2 JPJ SMS service

Jabatan Pengangkutan Jalan (JPJ) is now providing the SMS service to customers. JPJ launched the SMS services to the customers in order to help them checking their license and road tax renewal status. The example of the service is user can check the license and road tax renewal status.

Motorists are able to check the status of their driving license and road tax through the short messaging service (SMS). The customers will be charged at the normal rate for each message they sent out. However, RM 1 will be deducted from the customers for every reply by JPJ. Users only need to key in a text message that reads <JPJ IC> followed by a space and their identity card number or <JPJ RN> followed by a space and their vehicle plate number and send them to 39988 to receive updated information on whether they are required or allowed to renew their license or road tax.

The processes of checking vehicle road tax renewal status are shown in the figure 2.2 below.

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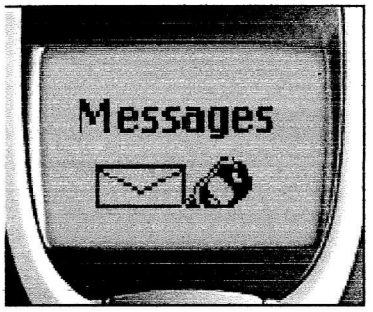
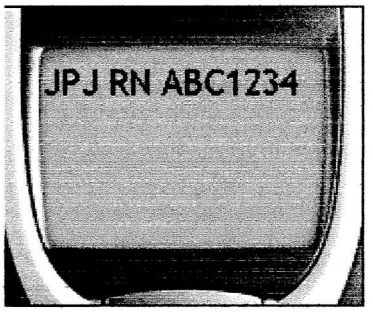
1. Go to "Messages"



2. Select "Write Message"

3. Type JPJ<space>RN<space>(plate number)



4. Send to 39988

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