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JUDUL: **SMS MANAGEMENT SYSTEM FOR FTMK**

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Tandatangan Penulis:

Tandatangan Penyelia:

(Tandatangan Penulis)

(Tandatangan Penyelia)

Alamat Tetap: No. 16, Jalan 32/27B,
Taman Desa Setapak,
53300 Kuala Lumpur.
Tarikh:

Puan Marliza Binti Ramly
Tarikh: 5 MAY 2008

CATATAN: **Tesis dimaksudkan sebagai Laporan Projek Sarjana Muda (PSM)
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SMS MANAGEMENT SYSTEM FOR FTMK

NUR SURIA HANANY BINTI AHMAD

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 entitle

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is written by me and is my own effort and that no part has been plagiarized without citations.

STUDENT : _____ Date: 28 APRIL 2008
(NUR SURIA HANANY BINTI AHMAD)

SUPERVISOR : _____ Date: 28 APRIL 2008
(PUAN MARLIZA BINTI RAMLY)

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DEDICATION

To my beloved husband, En Azhar bin Awang, my children's, Nur Adriana Shahirah and Nur Athirah Shamimie, my parents, En Ahmad Murad and Pn Mardina Abdullah, my whole family, my supportive supervisors, Puan Marliza binti Ramly and all my understandable friends. Thank you for the support and guidance given throughout the completion of my PSM.

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ABSTRACT

SMS Management System for FTMK (SMSFTMK) was developed to facilitate academic staff in FTMK for sending the information to FTMK staffs and students by using short messaging system (SMS). This system divide users into two sections which are first party users, that given the privilege to send the SMS and second party users, just can receive the SMS. There are two module in this SMSFTMK, registration module and sending SMS module. SMSFTMK are a alternative then existing technique whether by manual memo placement, or by email system. By using this system, first party users which are from academic staff department only need a mobile phone and they can access this system at anywhere after they register their information at administration. The users need to send the SMS with given syntax to GSM modem number. Then the system will delivering messages to second party consist of academic staff department and student of FTMK. SMSFTMK was developed by using Visual Basic 6.0 programming language and Microsoft Access as the database. This system is hoped to help FTMK members in order to facilitate the information delivery that related to university activities to other party.

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ABSTRAK

Pengurusan sistem SMS untuk FTMK (SMSFTMK) dibangunkan bagi memudahkan pekerja bahagian akedemik menghantar informasi-informasi kepada pekerja bahagian akedemik yang berkaitan atau pelajar-pelajar FTMK dengan hanya menggunakan Sistem Pesanan Ringkas (SMS). Sistem ini membahagikan pengguna kepada dua bahagian iaitu pengguna pertama yang mana pengguna pertama mempunyai akses menghantar SMS dan pengguna kedua yang tidak mempunyai akses menghantar SMS tetapi hanya menerima SMS. Terdapat dua modul di dalam SMSFTMK ini iaitu modul pendaftaran dan modul penghantaran SMS. SMSFTMK merupakan satu alternetif bagi metod yang sedia ada yang mana secara manual atau melalui email. Melalui SMSFTMK, pengguna pertama yang terdiri daripada pekerja bahagian akedemik hanya memerlukan sebuah telefon bimbit dan mereka boleh mengakses sistem ini di mana-mana. Pengguna perlu menghantar sms dengan sintaks-sintaks yang telah ditetapkan ke nombor modem gsm. Kemudian sistem tersebut akan menghantar pesanan tadi kepada pengguna kedua yang merupakan pekerja bahagian akedemik dan pelajar FTMK. SMSFTMK dibangunkan dengan menggunakan bahasa pengatucaraan Visual Basic 6.0 dan Microsoft Access sebagai pengkalan data sistem ini. Sistem ini diharap dapat membantu warga FTMK dalam memudahkan penghantaran maklumat yang berkaitan dengan aktiviti universiti kepada pihak-pihak yang tertentu.

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CHAPTER I

INTRODUCTION

1.1. Project Background

SMS Management System for FTMK is a system that helps selected person in education department in UTeM which are Dean, Head Department and Lecturers (after this will known as First Party) to deliver any information to Head Department, Lecturers, and Students (after this will known as Second Party) regarding any education activities such as Staff Meeting, and Class activities.

Currently, the first party has to place a memo/notice about the education activities at least a day earlier or using email. If it is an emergency cancellation or extra class/ meeting, the first party has to send SMS or call one of them, and then the second party had to pass the information to the other second party. It will cause some of undelivered messages to at least one or two second party.

By using this system, the first party can send the SMS using their own hand phone, without knowing all the second party' telephone number and this system will delivery the information to selected second party that registered their mobile phone number in system database. The number then will be retrieve into the new database that divides the numbers based on classes and departments.

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The system will be as medium to connect between the first party and the second party.

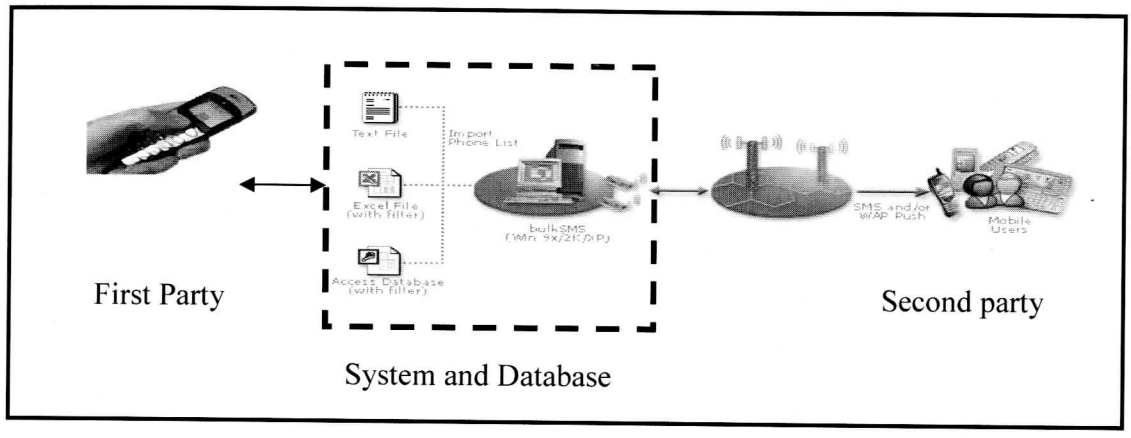

Figure 1.1: System Logical Design

There are existing systems that allowed the first party to send the messages using email called content management system, but for this new system, it will help the first party more than existing system. The first party don't have to access to internet, and PC. It is more convenience to use hand phone instead of PCs.

This SMS Management System for FTMK purposely built to help the first party to send the information to all second party safely without any left behind second party, so that there is no more excuses make by second party for them to involve all the activities.

The system will be develop using Visual Basic programming tools, and Microsoft Access as the database for second party' telephone numbers. This system will integrate with GSM Modem and a server.

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1.2. Problem Statements

a) Difficulty messages delivery

It is hard to pass the messages or to inform any information to second party regarding class activities.

b) It is not possible to get the second party immediate attention

Usually not all second party will get the information, and there will be at least one or two second party left behind and they using the excuse to escape from the activities.

c) Limited second party telephone

First party must have all the second party' telephone numbers or at least one of the second party telephone numbers to allow them to send the messages using SMS.

1.3. Objectives

- To make easier for the first party to send information via SMS through their own mobile phone without needs to access the computers.
- To create a simple application using SMS technology that helps FTMK staff to delivered the related information.
- To minimized undelivered information to second party.
- To organized mobile number of FTMK staffs and students into a database.

1.4. Scopes

- This system is build for FTMK facilities that involve the first party (Dean, Head of Departments, Lecturers and Academic Staffs) and second

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party (Head of Departments, Lecturers, Academic Staffs, and student) of FTMK.

- One database will be created to store all the first party and second party mobile phone number. Its help to reduce the possibility of undeliverable messages to second party.
- This system assumes all students in the class taking all offered subject of the semester. It will ignore the special cases such as drop subject.
- The first party has to create a message about the information and include the exception sentences to certain group/individual to ignore the SMS if there is any special case. For example *"Mesyuarat tergempar akan diadakan untuk semua staff kecuali Ketua jabatan Rangkaian."*
- SMS Management System for FTMK will be integrated with a Visual Basic program with Microsoft Access database.
- For this project, the testing will involved about one person from first party and at least two persons from second party as testing.

1.5. Project Significance

This project can be used by FTMK itself to make the information deliverable between the first party and second party is become more efficient and effective. It is also can be implement to others department in order to manage the administration task for effective work.

This system will help to reduce numbers of absence participants in any emergency meeting, class or other academic activities that related to FTMK and UTeM. The system also helps to reduce time for the first party to find the second party telephone number, and send the information.

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The first parties who have to cancel class, meeting or activities don't need to paste memo at few places after this systems implemented. The first party just used their own hand phone, type a SMS with few format, choose the second party class or department involved, and then the system will take care of everything. The system will deliver the message to all selected second party which their number in the database.

1.6. Conclusion

As conclusion, SMS Management System for FTMK development will help the first party and second party to prevent the missing information and to reduce miscommunication between the first party and the second party. By separating the telephone numbers by departments and classes inside the database, this system makes the database more manageable.

From this chapter, the problem statement, objectives, scope, and project significance output are being identified in order to develop the system that will be used by the target users.

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CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

This chapter will discuss about literature review and project methodology of the related project. Literature review is a collecting related data, analyze business processes, identify underlying patterns and create the conclusion. The project methodology means technique and type use to complete the project.

2.1. Introduction

The literature review is one of the least understood parts of a research project. A literature review is a summary of a previous research on a topic. Literature reviews can be either a part of a larger report of a research project, or it can be a bibliography essay that is published separately in a scholarly journal. Either way, the purpose is the same, to review the scholarly literature relevant to the topic studied. This review will help to design the methodology and help others to interpret the research.

In this chapter, the literature review is focus on the research of the current system and the new system. The purpose of a literature review is to explain how the question to be investigated fits into the larger picture and why this approached the topic. This section of a scholarly report allows the reader to be brought up the date regarding the

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state of research in the field and familiarizes to any contrasting perspectives and viewpoints on the topic.

2.2. Facts and Findings

Below are some of the findings in the process to build the SMS Management System for FTMK.

2.2.1. Domain

SMS Management System for FTMK (SMSFTMK) is actually an ICT education. It is called education because it combines the technology with education purpose and it is called technology because it is developed with wireless technology and it changes the manual way into GSM technology.

The domain that had been identified in the project is education purpose. The devices used for this project are GSM Modem, Database and Programming Language.

2.2.1.1. GSM Modem

A GSM modem is a wireless modem that works with a GSM wireless network. A wireless modem behaves like a dial-up modem. The main difference between them is that a dial-up modem sends and receives data through a fixed telephone line while a wireless modem sends and receives data through radio waves.

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A GSM modem can be an external device or a PC Card / PCMCIA Card. Typically, an external GSM modem is connected to a computer through a serial cable or a USB cable. A GSM modem in the form of a PC Card / PCMCIA Card is designed for use with a laptop computer. It should be inserted into one of the PC Card / PCMCIA Card slots of a laptop computer.

Like a GSM mobile phone, a GSM modem requires a SIM card from a wireless carrier in order to operate.

(Retrieve from: http://www.ihub.com/GSM%20Modems.htm at 7.00 pm, February 20, 2008)

2.2.1.1.1. ITEGNO 3000 GPRS MODEM (GSM 900/1800, USB)

Specification

- Measurement : 93mm x 64mm x 12mm
- Weight : 58g
- Data Port: USB 1.1
- Power : USB Bus powered
- GPRS Class 10: Coding scheme CS1 to CS 4
- Max. packet-switched (GPRS) data transmission speed: 85.6 kbps
- Max. circuit-switched (GSM CSD) data transmission speed: 14.4kbps
- Cellular Service: ETSI GSM Phase 2+; Dual band auto switching (EGSM 900 / DCS 1800)
- System requirements: Windows-compatible notebook / PC; minimum 15MB free hard disk space

(Retrieve from: http://www.mobitek-system.com/iTegno/iTegno_3900_Specification.pdf at 7.00 pm, February 20, 2008)

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2.2.1.2. Database Management System (DBMS)

As one of the oldest components associated with computers, the database management system, or DBMS, is a computer software program that is designed as the means of managing all databases that are currently installed on a system hard drive or network. Different types of database management systems exist, with some of them designed for the oversight and proper control of databases that are configured for specific purposes. Here are some examples of the various incarnations of DBMS technology that are currently in use, and some of the basic elements that are part of DBMS software applications.

As the tool that is employed in the broad practice of managing databases, the DBMS is marketed in many forms. Some of the more popular examples of DBMS solutions include Microsoft Access, FileMaker, DB2, and Oracle. All these products provide for the creation of a series of rights or privileges that can be associated with a specific user. This means that it is possible to designate one or more database administrators who may control each function, as well as provide other users with various levels of administration rights. This flexibility makes the task of using DBMS methods to oversee a system something that can be centrally controlled, or allocated to several different people.

(Retrieve from: http://www.wisegeek.com/what-is-dbms.htm at 4:51pm, February 20, 2008)

2.2.1.2.1. Microsoft Access

According to Wyatt (1999), Access is a powerful, flexible, easy-to-use, database-management program.

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Previously, Microsoft Office Access was known as Microsoft Access is a relational database management system from Microsoft which combines the relational Microsoft Jet Database Engine with a graphical user interface. It is a member of the 2007 Microsoft Office system.

Access can use data stored in Access/Jet, Microsoft SQL Server, Oracle, or any ODBC-compliant data container. Skilled software developers and data architects use it to develop application software. Relatively unskilled programmers and non-programmer "power users" can use it to build simple applications. It supports some object-oriented techniques but falls short of being a fully object-oriented development tool.

Access is used by small businesses, within departments of large corporations, and hobby programmers to create *ad hoc* customized desktop systems for handling the creation and manipulation of data. Access CAN be used as a database for basic web based applications hosted on Microsoft's Internet Information Services and utilizing Microsoft Active Server Pages ASP. Most typical web applications should use tools like ASP/Microsoft SQL Server.

Some professional application developers use Access for rapid application development, especially for the creation of prototypes and standalone applications that serve as tools for on-the-road salesmen.

- **Features**

The benefits of Access from a programmer's perspective is its relative compatibility with SQL (structured query language) - queries may be viewed and edited

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