

UMP ANNOUNCEMENT SYSTEM VIA GSM

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**A theses submitted in fulfillment of the
requirements for the award of the degree of
Bachelor of Computer Science (Computer Systems & Networking)**

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PERPUSTAKAAN UNIVERSITI MALAYSIA PAHANG 6	
No. Perolehan 068688	No. Panggilan TK 5103.438
Tarikh 30 NOV 2012	N67 2011 rs Bc.

MAY, 2011

ABSTRACT

Nowadays, there are many methods in broadcasting an announcement throughout an organization. In University Malaysia Pahang (UMP), announcements are sent to the community by using the posting on the announcement board around the faculty building and also using the e-community website UMP Portal. However, announcement through UMP website portal is less optimize uses. This is because a networking system at UMP is frequently down. Thus, the announcements cannot be read. In addition, majority of UMP communities rarely open UMP Portal. Therefore, they missed to read announcement on the UMP Portal. To overcome this problem, an UMP Announcement System via GSM has been developed. The alternative of GSM network is application in order to relay the announcement. The application Global System for Mobile Communication (GSM), in supporting the announcement sending from computer and receiving on the mobile phone.

ABSTRAK

Pada masa kini ada banyak kaedah dalam menyebarkan pengumuman di sesebuah organisasi. Di Universiti Malaysia Pahang (UMP), pengumuman dihantar kepada warga dengan menggunakan papan pengumuman di sekitar bangunan fakulti dan juga menggunakan e-komuniti laman portal UMP. Namun, pengumuman melalui portal UMP adalah kurang maksimum. Hal ini kerana sistem rangkaian UMP sering tergendala. Hal demikian, pengumuman tidak boleh dibaca. Selain itu, majority warga UMP jarang membuka portal UMP. Oleh itu, mereka terlepas untuk membaca pengumuman di portal UMP. Untuk mengatasi masalah ini, suatu Sistem Pengumuman UMP melalui GSM telah dibangunkan. Alternatif rangkaian GSM adalah aplikasi untuk menghantar pengumuman. Aplikasi rangkaian Global System for Mobile Communication (GSM) untuk menyokong penghantaran pengumuman daripada computer dan menerima di telefon.

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LIST OF ABBREVIATIONS

SMS	Short Messaging System
GSM	Global System for Mobile Communication
SIM	Subscriber Identity Module
PHP	Personal Home Page/ Hypertext Preprocessor
PSTN	Public Switched Telephone Network
GPRS	General Packet Radio Service
ITU	International Telecommunication Union
SDLC	System Development Life Cycle
ETSI	European Telecommunication Standard Institutes
IMT-2000	International Mobile Telecommunication-2000

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CHAPTER 1

INTRODUCTION

1.1 Project Background

University Malaysia Pahang is a university that is in the process to grow in terms of location or technology. The good technology can give better and faster communication between students and lecturers. UMP Portal is one example of communication in the UMP. Through the portal, staffs and students in UMP got to send a memo, announcement and as well as a variety of latest information available online in Portal UMP. Unfortunately, there are weaknesses that obtained from the UMP portal.

Thus, it would create a system that can send an announcement with faster to receiver. Staffs and students in UMP can use this system, UMP Announcement System with do the announcement through this online system to who they want to get that announcement. Then, the announcement was received by phone. So, who the receiver can get that announcement through message. It is show the receiver can get the message without online but indirectly. From that we know it can save our time to see the announcement in Portal UMP and the receiver can know the announcement with faster and directly. Sometimes staffs and students login Portal UMP in once

time in 2 or 3 days. That's why this system existed here. The system is call as UMP Announcement System through GMS technology.

A GSM modem is a specialized type of modem which accepts a SIM card, and operates over a subscription to a mobile operator, just like a mobile phone. From the mobile operator perspective, a GSM modem looks just like a mobile phone. A GSM modem can be a dedicated modem device with a serial, USB or Bluetooth connection, or it may be a mobile phone that provides GSM modem capabilities. GSM modems can be a quick and efficient way to get started with SMS, because a special subscription to an SMS service provider is not required. The mobile operator charges for this message sending and receiving as if it was performed directly on a mobile phone. In most parts of the world, GSM modems are a cost effective solution for receiving SMS messages, because the sender is paying for the message delivery. A GSM modem could also be a standard GSM mobile phone with the appropriate cable and software driver to connect to a serial port or USB port on your computer.

So, this system also have mobile application are rapidly developing segment of the global market. They consist of software that runs on a mobile device and performs certain tasks for the user of the mobile phone [1]. Nowadays, all students and staffs UMP could have a phone. So, use that benefit to provide this system.

1.2 Problem Statements

The goal of this project is to expand GSM technology in this system is UMP Announcement System to facilitate the management of the UMP announcement. Implementation GSM in announcement system is a one of to speed the message send to receiver without having to online regularly to see the announcement. The reduced performance in speed because of more the frequency of people using the site UMP Portal.

The first problem is users have need to online UMP Portal to read the announcement. This is because of users have no choice to read announcement through UMP Portal. For example, the users should be online even though the

semester breaks at home. In UMP only have UMP Portal to spread the announcement to students and staffs. So, it is limited in spread of the announcement.

In addition, there are majority of people rarely open portal UMP. So, the users missed to read announcement on the UMP Portal. Late to know the announcement will result in business such as meetings, programs, meetings disrupted. Typically, users would prefer to listens news from friends because they are not interesting to read the announcement in the UMP Portal due to various problems.

Hence, only a small quantities of student and staffs who know the announcement when have emergency announcement. This is because of network busy when have registration subject and registration hostel can disturb others user to read the announcement. Then, sometimes have happened low internet if have heavy rain and give complicate to users to log in Portal UMP. With this system, only the sender will be online for send announcement to receivers. Later, receiver will receive the message via their mobile phones.

1.3 Objectives

The main objectives for the development of UMP Announcement System via GSM are:

- i. Analyze the method, algorithm and technique for UMP Announcement System via GSM.
- ii. Develop a prototype of announcement system by SMS via GSM for UMP, starting with the Faculty of Computer Science and Software Engineering (FSKKP).
- iii. Apply Global System for Mobile Communication (GSM), in supporting the announcement sending from computer and receiving on the mobile phone.

1.4 Scope

The scopes of this project are as follows:

1. Hardware

- i. Laptop (PC)
- ii. Global Systems for Mobile Communications (GSM) modem.
- iii. Mobile phone

2. Software

- i. Interface (Visual Basic 2010)
- ii. Database (Microsoft Access 2007)

3. Users Testing

- i. 10 UMP Students and 5 staff (Lecturers).

1.5 Thesis Organization

This thesis consists of six (6) chapters. Chapter 1 will discuss an introduction to system, research, introduction, problem statement, objectives, scope and organization of thesis.

Chapter 2 described the literature review of the projects. This chapter is divided into two 2 main sub-chapter. First is study of existing and Technique, Method, Equipment and Technology. Second, explain the study conducted by the other party or existing computer project which is related to ongoing project. All the related of this study such as research methodology, technique and algorithm that have been proposed by several researches.

Chapter 3 wills the proposed methodology for our system. In this chapter will describe the detail of analysis phase, design, and implementation of the project. This chapter also explains the justification for use the hardware and software requirements.

The purposed framework, algorithm and technique that have been implemented will be discussed in chapter 4. In general, this chapter describes the development of projects that have been designed.

The result and discussion will be briefly described in chapter 5. The content that be presented in this chapter are result analysis, discussion such as strength and weakness of this system and future enhancement. Finally, the conclusion will be summarized in chapter 6.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The rapid growth of Information Technology era has led to significant contribution in the field of information distribution. As information become one of the most crucial in most organizations, the trend is clear that the technology for disseminating information has increased dramatically. The trend of technology grows ranging from web to mobile, information nowadays not just in a stateless environment but always in pervasive manners. As such, this paper attempts to describe the development of e-parcel system with integration with SMS using GSM. The purpose of the system is to utilize the SMS services that notify the end user regarding the information must be speed and clearly.

In this chapter, literature review will be focused on GSM technology, its history, architectures and GSM services. Then, the related works were presented in this chapter.

2.2 GSM's History

The idea of cell-based mobile radio systems appeared at Bell Laboratories (in USA) in the early 1970s. However, mobile cellular systems were not introduced for commercial use until the 1980s. During the early 1980s, analog cellular telephone systems experienced a very rapid growth in Europe, particularly in Scandinavia and the United Kingdom, but also in France and Germany. Each country developed its own system, which was incompatible with everyone else's in equipment and operation.

The Conference of European Posts and Telecommunications (CEPT) formed, in 1982, the Group Special Mobile (GSM) in order to develop a pan-European mobile cellular radio system (the GSM acronym became later the acronym for Global System for Mobile communications).

In 1989 the responsibility for the GSM specifications passed from the CEPT to the European Telecommunications Standards Institute (ETSI). The commercial use of GSM started around mid-1991. By the beginning of 1994, there were 1.3 million subscribers worldwide. By the beginning of 1995, there were 60 countries with operational or planned GSM networks in Europe, the Middle East, the Far East, Australia, Africa, and South America, with a total of over 5.4 million subscribers. As of the end of 1997, GSM service was available in more than 100 countries and has become the de facto standard in Europe and Asia. Presently, GSM networks are operational or planned in over 80 countries around the world [1]. In 2000, GPRS goes commercial. [3]

2.3 GSM Background

Short for Global System for Mobile Communications, GSM is a digital cellular communications system. It was developed in order to create a common European mobile telephone standard but it has been rapidly accepted worldwide [1]. GSM also known as Global System for Mobile Communications is a set of ETSI standards specifying the infrastructure for a digital cellular service and initially

developed and introduced in European countries during the late 80"s and early 90"s. Since GSM is the first known digital mobile telephony system, it has speedily gained recognition throughout the world, sharing portion of the market cake. It is estimated that 80% of the global mobile network market uses the GSM standard, except for Japan, which you can find nowhere GSM network in Japan. Now, GSM technologies have silently creep into over 3 billion peoples" life and adopted in more than 212 countries and territories. [2]

This is the process will be created in UMP Announcement System via GSM.

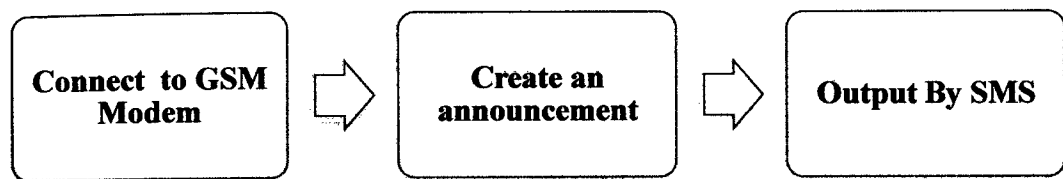


Figure 2.1: Process in UMP Announcement System via GSM

According the figure 2.1, above is the explanation about process UMP Announcement System via GSM:-

Step 1: The users need to connect between system and GSM Modem.

Step 2: The users need to create an announcement in this system.

Step 3: The receiver will be get the announcement by Short Message Service (SMS).

2.4 Architecture of the GSM Network

The functional architecture of a GSM system can be broadly divided into the Mobile Station, the Base Station Subsystem, and the Network Subsystem. Each subsystem is comprised of functional entities that communicate through the various interfaces using specified protocols. The subscriber carries the mobile station; the base station subsystem controls the radio link with the Mobile Station. The network