

**ONLINE APPOINTMENT APPLICATION SYSTEM****NORLIDIYANA BT TABRONI**

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requirements for the award of the degree of  
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## **ABSTRACT**

Internet has become one of the largest sources of information worldwide, it facilitates the delivery of educational and training materials that supports education and training process which can be retrieved through the World Wide Web (WWW). Being a centre point for technological development for the past two decades, the Internet's facility for real-time interaction have made computer-based training, or web-based training become more practical for meeting the educational needs. As an aid to the above requirements, this thesis presents the development of On-line Appointment Application System & Notification via SMS for students especially under the Faculty of Computer Systems and Software Engineering to send their application to set an appointment through online and get their approval immediately via short message service (SMS) sending by that lecturer. Therefore, student can get the latest information about the result of the application directly from the system. This project will be divided into two interfaces, namely student and lecturer or staffs interface.

## ABSTRAK

Salah satu kaedah yang berkesan dan efektif untuk memperolehi maklumat ialah melalui Internet di mana ianya mampu di akses terus dari komputer peribadi . Pada masa kini Internet telah menjadi salah satu sumber maklumat yang terbesar di dunia. Ia banyak memberi kemudahan di dalam bidang pendidikan di mana kita boleh mendapatkan bahan-bahan latihan dan rujukan dengan cepat dan mudah melalui capaian Internet. Bagi memenuhi keperluan di atas, projek ini di bangunkan dengan tujuan untuk membantu khususnya pelajar di Fakulti Komputer Sistem dan Rangkaian, Kolej Universiti Kejuruteraan Teknologi Malaysia membuat permohonan untuk mengadakan perjumpaan ataupun temujanji dengan pensyarah di fakulti secara online. Sistem ini juga dapat membantu dan mendapatkan pengesahan daripada pihak pensyarah sama ada meluluskan permohonan yang telah di hantar kepada mereka. Perkhidmatan Pesanan ringkas akan dihantar ke telefon bergerak pelajar berkenaan sebagai pemberitahuan bahawa permohonan untuk bertemu dengan pensyarah tersebut telah di luluskan. Oleh itu, pelajar dan pensyarah boleh menyemak keputusan permohonan secara terus melalui sistem. Perlaksanaan projek ini terbahagi kepada dua fasa, iaitu antaramuka untuk pelajar dan antaramuka untuk pensyarah

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**LIST OF ABBREVIATIONS**

<b>OAAS</b>	-	<b>Online Appointment Application System</b>
<b>ASP</b>	-	<b>Active Server Page</b>
<b>USB</b>	-	<b>Universal Serial Bus</b>
<b>FSKKP</b>	-	<b>Faculty of Computer Systems and Software Engineering</b>
<b>E-Mail</b>	-	<b>Electronic Mail</b>
<b>SMS</b>	-	<b>Short Message System</b>
<b>HTML</b>	-	<b>HyperText Markup Language</b>
<b>SQL</b>	-	<b>Structured Query Language</b>
<b>JSP</b>	-	<b>Java Server Page</b>
<b>PHP</b>	-	<b>PHP Hypertext Preprocessor</b>
<b>KUKTEM</b>	-	<b>University College of Engineering and Technology Malaysia</b>
<b>ERD</b>	-	<b>Entity Relationship Diagram</b>
<b>DFD</b>	-	<b>Data Flow Diagram</b>
<b>DBMS</b>	-	<b>Database Management System</b>
<b>OS</b>	-	<b>Operating System</b>

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

Nowadays, all of the daily business use electronic facilities as a medium in order to facilitate the transaction. As an example, banking system such as maybank2u, online university application and online summons payment which is developed through online. Online application is used widely after era of information technology introduced by government. The reason online application is use because it helps save time from line up at the counter and it also more effective to the maintenance part and time management.

Electronic mail (E-Mail) is an example of communication using electronic system. In the human relationship, there are lots of ways to communicate among each other. The most effective ways is through mobile phone. To meet people, sometimes we need to make an appointment first. We must follow the procedure before can get a discussion or meeting with other people. But, not all people can contact the person directly.

## **1.2 Problem Statement**

Communication is a very important in our life. With current technology of communications its make the life getting easier. Unfortunately, sometimes there have some problem and cause message cannot be deliver wisely. Mobile phone is one of example as a telecommunication device that allow user to contact each others. And the popular ways to send message lately is Short Message System (SMS) and Multimedia Message System (MMS). This technology is very practical besides the low cost features. But sometimes when user did not enough credit to send message or make a phone call through mobile phone they should have to use optional way to send a message faster and easier.

Therefore, it would be very beneficial if there have one system can provide facilities for student to request an appointment from a lecturer. The Online Appointment Application System can be as a good solution where student only need to filling the request form and submit it to the person who they wants to meet. Student need to wait confirmation or approval from the lecturer. One SMS notification will be received from lecturer to tell that the request of appointment is accepted, changed or cancel.

## **1.3 Objectives**

The objectives of this project are:

- (i) To develop web-based application for students to set an online appointment application to lecturer and get feedback.

- (ii) To develop an application for lecturer makes verification via short Message Service (SMS) for sending an approval or disapproval status of appointment to student.

#### **1.4 Scopes**

The scopes of the project that have identified are:

- (i) This is web-based application that concern on the student in Faculty of Computer Systems and Software Engineering.
- (ii) Functions with student interface and lecturer interface where student can request an appointment through online and then receive the status appointment after approval or disapproval by lecturer.
- (iii) Receive notification message via Short Message Service (SMS) through Nokia mobile phone models 6610i for all service provider such as Celcom, Maxis and Digi in Malaysia by using Nokia connectivity adapter cable CA-42

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Problem of the Current System**

In the environment of education, many meeting and discussion occurred between lecturer and student. To make an appointment with the lecturer, sometimes students must come to the office and see the lecturer directly to check whether he or she available or not at that time. If the lecturer is busy, then the student should make an appointment on another time and need to come again. Although this way 'works', there can be a number of issues that can be raised which is sometimes student do not know whether they comes in the right time or not.

Certain lecturer prefers if their student make an appointment first before come to see them because he or she can prepare for that discussion or meeting. But how to make an appointment if student did not have the lecturers contact number? In this situation, it might be problem for student to set an appointment with that lecturer.

The existing system in KUKTEM named Student Community [1] only provide facilities such as to write and read a memo, to view course result, to view exam schedule, financial information, to make vehicle registration and etc. But there have no facilities for student to set an appointment to the lecturer through online. Most of the student use memo as a medium to set an appointment with the lecturer

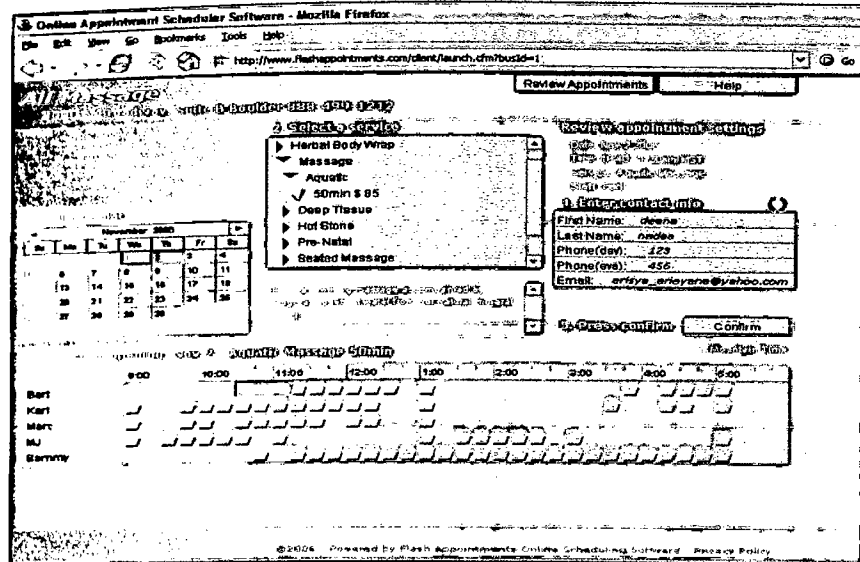


beside contact directly using mobile phone. This method not very practical where sometimes lecturer may forget about the appointment because there was no specific schedule to list all the appointment requested.

### **2.1.1 Research from the current online appointment web-based**

Currently, many existing online appointment schedulers published on the internet. The company of software developer competes among each other and offered a lot of features and benefits to their customer. At this websites [2], Flash Appointment works for any type of business that needs appointments scheduling or reservations. For instance it can be medical, dental, tax preparation, accounting, beauty saloon, home repair, consulting, personal care, education and other professional practices.

Online appointment system at the beauty saloon was selected as a research. This system opens for all customers without any account registration. Firstly, customer needs to select the date to make an appointment. After that they need to select what the services that their want. Next they should select which the time slot preferred and the staff name will serve them. The last step is filling all customers' personal information such as first name, last name, mobile phone number, house phone number and email address. After step one to four finished, click button "confirm". One message box will appear to tell that appointment has been confirmed. All the details such as time, date, types of services, staff name in charge and confirmation number will be send directly to customer's email. Figure 2.1 is an example of online appointment where customer can set an appointment before get a treatment at the beauty saloon [2].



**Figure 2.1:** Example of web-based beauty saloon's online appointment system

### 2.1.2 Improvements addressed by this project

Beauty saloon's online appointment system [2] is one of an example system to help customer to set an appointment with the shop besides by phone call or come straight to the shop. The scope of this system involved two parties which is customer and owner of the shop. Upon review of this existing system, the scope can be change to make it suitable for KUKTEM's environment which is involving student and the lecturer within the faculty. A better understanding of what was required and what improvements needed to be developed in order to make the services more valuable to gain and it can be seen from a student's and lecturer's point of view. The improvements that need to be developed can be summarized as follows:-

- (a) There needs to develop one centralized system so that all the appointments needs to be set up, canceled or updated, this can be achieved in an efficient and user-friendly way.
- (b) In the existing system, concepts open user did not suitable applied because it is not secure for student and lecturer to send any confidential message. To

prevent it access by another parties, so the system can be use by registered student and registered lecturers only.

- (c) Besides email as a way of notification for the confirmation of appointment, new popular ways nowadays can be added to the system which is Short Message System (SMS). Notification also can be sending from system and can be viewed directly from student's mobile phone.

## **2.2 Short Message System (SMS) Overview**

The Short Message Service (SMS) [2] allows text-based messages to be sent to and from mobile telephones on a GSM network. Each message has a maximum length of 160 characters. The SMS service is provided by the Global System for Mobile Communications (GSM). SMS messages are divided into two categories: Mobile Terminate (MT — where the SMS message originates from the network provider) and Mobile Originate (MO — where the consumer can send messages to other consumers) [3]. In the context of MO and MT messages, the consumer refers to the end-user, the person with a cell phone. This is as opposed to the network provider, who provides the consumer with such services.

An SMSC is identified by a Global Switched Telephone Network (GSTN) number, which has to be known to the sender of a mobile originated message [4]. The availability of the SMS service over different mobile networks depends on roaming agreements of the networks, as well as on a mechanism to deliver the messages. It is the network operator's responsibility to inform the user about the success or failure of the message delivered. Messages can be sent either through a GSM modems using a dial-up SMS center, through the internet using an account with an internet SMS center and through a GSM mobile phone by attached to the computer.

Typically, SMS messages are sent and received by cellular consumers using cellular telephone handsets. Cell phones are not the only devices that have this capability though. Anything that is capable of talking to a GSM network, in theory, has the ability to send and receive SMS messages. Since we are trying to interface a computer with the GSM network, it makes sense to use a device designed to do so, in other words a GSM phone or modem.

Almost all GSM phone or modems (and this includes many cell phone hand sets) use RS-232 as a transport protocol. On top of this, they use a protocol called the AT+ command set to communicate with their controlling devices. AT+ was defined by the European Telecommunication Standards Institute [5], and was designed to be a backward compatible set of extensions to the Hayes AT command set [6]. The coding scheme the time of storage of a short message in the SMSC and a lot of more will be set with the command AT+CSMP. Device manufacturers are free to add their own extensions to this command set, and such extensions usually have an identifying prefix. This prefixes are not equal by the different GSM operators in the world.

To use the Short Message Service, users need the relevant subscriptions and hardware, user should subscribe mobile telephone network that supports SMS. SMS must be enabled for that user (automatic access to the SMS is given by some mobile network operators. Then, buy a mobile phone or GSM modem that supports SMS and user should know how to send or read a short message using their specific model of mobile phone or GSM modem.

### **2.2.1 How SMS works**

SMS could accesses through users modem, the internet or the mobile phone a SMSC (Short Message Service Center)[4] and submits the message users wish to send. Then the SMSC transmits this message to the desired mobile phone.

(i) **Sending directly through the mobile phone**

Sending will work the same as when sending messages from phone, except type the message on the computer. Not all phone manufactures implement however a link to the computer (IR port or serial cable link). User could send text, pictures and ring tones.

(ii) **Sending through the modem**

Sending the message through a modem will connect to a SMSC (SMS center) that relays users' message to its destination. There are several mobile phone providers that offer this modem dial-up. The connection is to a local server (not to the internet), hence users need to choose a SMSC that is within your region. Alternatively users may select to dial a server abroad, but the communication cost will be expensive.

(iii) **Sending through the Internet**

SMS can send messages through a number of commercial gateways. Those sites allow setting up an account and buying blocks of SMS. Users can then send the messages either through their web site or through SMS.

### **2.2.2 Benefits of SMS**

In today's competitive world, differentiation is a significant factor in the success of the service provider. Once the basic services, such as voice telephony, SMS provides a powerful vehicle for service differentiation. From the sentence, it stated that technology expand rapidly and become easier. Before these, voice telephony as a medium of communication, but now SMS can be popular style to replace a phone call because the cost is low.

The benefits of SMS to subscriber's center on convenience, flexibility, and seamless integration of messaging services and data access [3]. From this perspective, the primary benefit is the ability to use the handset as an extension of the computer. SMS also eliminates the need for separate devices for messaging because services can be integrated into a single wireless device—the mobile terminal. These benefits normally depend on the applications that the service provider offers. At a minimum, SMS benefits include the following:

- a) Delivery of notifications and alerts
- b) Guaranteed message delivery
- c) Reliable, low-cost communication mechanism for concise information
- d) Ability to screen messages and return calls in a selective way
- e) Increased subscriber productivity

More complexity functionality provides the following enhanced subscriber benefits:

- a) Delivery of messages to multiple subscribers at a time
- b) Ability to receive diverse information
- c) E-mail generation
- d) Creation of user groups
- e) Integration with other data and Internet-based applications

### **2.3 Development Tools**

In completing this system development, there are three main tools to use:

- (i) Application (Programming Language) – PHP, HTML.
- (ii) Database - MySQL version 3.23.37
- (iii) Tools (Software) - Macromedia Dreamweaver MX.
- (iv) Hardware Requirement

### **2.3.1 Programming Language - PHP, HTML**

The web site scripts and services were created using PHP [6]. PHP is a server-side, cross-platform, scripting language designed specifically for the Web. Within a HTML page, PHP code is embedded, allowing it to be executed each time the page is visited. The PHP code is interpreted at the Web server and generates HTML or other output that the visitor will see. PHP is an Open Source software product.

#### **2.3.1.1 Some of PHP Benefits compared with other language**

Today, PHP's popularity is enough to generate interest in learning. PHP is a standard feature offered by most Web hosting companies. However it is interesting to understand why so many people choose PHP over alternatives. Some of PHP's main competitors are Perl, Microsoft Active Pages (ASP), Java Server Pages (JSP), and Allaire Cold Fusion. In comparison to these products, PHP has many benefits including the following:

**(i) High Performance**

PHP is very efficient. Using a single inexpensive server, millions of hits per day can be served. It is faster to code and faster to execute. As a beginner in developer of the system, PHP easy to manage and can interact with database such as MySQL.

**(ii) Modifiable**

PHP is designed to allow for future extension of functionality .PHP is coded in C and provides a well-defined applications programming interface (API).

There have a reason why PHP is very beneficial to choose because for further research, maybe this system can be upgraded so by choosing PHP, it more simple and easy to understand and learn.

**(iii) Built-in Libraries**

Because PHP was designed for use on the Web, it has many built-in functions for performing many useful Web-related tasks. These include generation of GIF images on-the-fly, connecting to other network services, sending email, working with cookies, generating PDF documents, etc.

**(iv) Low Cost**

Support for PHP is free and readily available.

**(v) Dynamic Support**

PHP is available for many different operating systems. PHP code can be written on free Unix operating systems such as Linux and FreeBSD, commercial Unix versions such as Solaris and IRIX, or on different versions of Microsoft Windows.