

WAP-Based UTP Event Management System

by

Mohd Shafi Affandi B Bidin

Dissertation submitted in partial fulfillment of
the requirements for the
Bachelor of Technology (Hons)
(Information & Communication Technology)

JULY 2007

Universiti Teknologi PETRONAS
Bandar Seri Iskandar
31750 Tronoh
Perak Darul Ridzuan

CERTIFICATION OF APPROVAL

UTP Event Management System

By

Mohd Shafi Affandi B Bidin

A project dissertation submitted to the
Information & Communication Technology Programme
Universiti Teknologi PETRONAS
in partial fulfillment of the requirement for the
BACHELOR OF TECHNOLOGY (Hons)
(INFORMATION & COMMUNICATION TECHNOLOGY)

Approved by,

(Pn. Syarifah Bahiyah Rahayu Bt Sy Mansoor)

UNIVERSITI TEKNOLOGI PETRONAS
TRONOH, PERAK

July 2007

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 in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

A handwritten signature in black ink, appearing to read 'M. Shafi', is written over a horizontal line.

MOHD SHAFI AFFANDI B BIDIN

ABSTRACT

WAP-Based UTP Event Management System is actually an automated system for replacing the manual paper-based system in managing and facilitating the events and activities organized by the UTP and also the societies such as Residential College Support Unit (RCSU), Majlis Perwakilan Pelajar Universiti Teknologi PETRONAS (MPPUTP), Persatuan Seni Silat Cekak, and many more.

This report described the detailed analysis regarding the current situation and problems that are encountered by mostly the UTP student. The problem statement has been stated, the scope has been identified, and also the objectives have been listed out in order to be achieved in the final steps of this project. By having the WAP-based Event Management System, it is updated with the activities and events and the users will be more alert and aware with the existence of the events and activities held in UTP. This report will expose the users with the WAP technology that is widely used by the mobile phone users. This report also will gives a better overview of WAP, the architecture of WAP, the advantages and also its applications which are currently applied and used by other people.

The methodology that will be used must be applicable and suitable in order that there will be no mistake or problems arise after the system has been implemented. Thus, the most suitable methodology that might help in the system development is Rapid Application Design (RAD). By developing this WAP-based Event Management System, the problems encountered by the UTP student and staff can be eliminated. They can obtain updated events information on their WAP-enabled mobile phones. They can also access the information easily and quickly.

ACKNOWLEDGEMENT

Upon completing this final year project, first of all, I would like to express my gratitude to ALLAH the Almighty. I am indebted to the individuals who have contributed their ideas, view, encouragement and support within the length of this project. No substantial gratitude could ever measure up to assistance, guidance and drive to keep me striving towards accomplishing the goals set.

I would like to thank to my beloved parents, Bidin Bin Musa and Sawiah Binti Ismail, who have faith and give support that I can go distance. I would like to take this opportunity to thank to Pn. Syarifah Bahiyah Rahayu Binti Syed Mansoor, as the project supervisor for her courage, support, patient, help and guidance throughout this project. Last but not least, thank you to everyone else that involve directly or indirectly in providing a big contribution to this project.

TABLE OF CONTENTS

CERTIFICATION OF APPROVAL.....	i
CERTIFICATION OF ORIGINALITY.....	ii
ABSTRACT.....	iii
ACKNOWLEDGEMENT.....	iv
TABLE OF CONTENTS.....	v
LIST OF FIGURE.....	vii
ABBREVIATION AND NOMENCLATURES.....	viii
CHAPTER 1: INTRODUCTION.....	9
1.1 Background of Study.....	9
1.2 Problem Statement.....	10
1.2.1 Problem Identification.....	10
1.2.2 Significant of the Project.....	11
1.3 Objective & Scope of Study.....	12
1.3.1 Relevancy of the project.....	12
1.3.2 Feasibility of the Project within the Scope and Time Frame.....	12
CHAPTER 2: LITERATURE REVIEW.....	16
2.1 Brief History of WAP.....	16
2.2 How Does WAP Work.....	17
2.3 Advantages of WAP.....	20
2.4 Automated UTP Event Management System.....	21
2.5 Future of WAP.....	22
CHAPTER 3: METHODOLOGY.....	23
3.1 Procedure Identification.....	23
3.1.1 Planning.....	25
3.1.2 Design.....	25
3.1.3 Develop.....	26
3.1.4 Test.....	26
3.2 Tools Required.....	27
3.2.1 Software.....	27
3.2.2 Hardware.....	28

CHAPTER 4:	RESULT AND DISCUSSION.....	29
	4.1 Requirement Analysis.....	29
	4.2 Requirement Modeling.....	29
	4.2.1 Process Flow Chart.....	30
	4.2.2 System Interface Design.....	31
 CHAPTER 5:	 CONCLUSION.....	 37
	5.1 Conclusion and Recommendations.....	37
 REFERENCES.....		 39

LIST OF FIGURES

Figure 1.2 Final Year Project Part I Schedule

Figure 1.3 Final Year Project Part II Schedule

Figure 2.1 The WAP Gateway

Figure 2.2 WAP System Concepts

Figure 2.3 WAP System

Figure 3.1 Rapid Application Design

Figure 4.1 WAP-based UTPEMS System Flow

Figure 4.2 The WAP Proof Interface

Figure 4.3 UTP Event Management System Home Page

Figure 4.4: Error page

Figure 4.5: Insert details and record

Figure 4.6: New details and record will be display at the home page

Figure 4.7: PHPMyAdmin Database and server

ABBREVIATION AND NOMENCLATURES

GPRS	General Packet Radio Services
GPS	Global Positioning System
GSM	Global System for Mobile Communication
HTML	Hypertext Markup Language
HTTP	Hypertext Transfer Protocol
IP	Internet Protocol
IRC	Internet Relay Chat
MMS	Multimedia Message Services
PDA	Personal Digital Assistant
PHP	Hypertext Preprocessor
RCSU	Residential College Support Unit
SMS	Short Message Services
TCP/IP	Transmission Control Protocol/Internet Protocol
TLS	Transport Layer Security
UTP	Universiti Teknologi PETRONAS
WAE	Wireless Application Environment
WAP	Wireless Application Protocol
WML	Wireless Markup Language
WWW	World Wide Web
XHTML	Extensible Hypertext Markup Language
XML	Extensible Markup Language

CHAPTER 1

INTRODUCTION

1.1. BACKGROUND OF STUDY

For years, computer users have made extensive use of the World Wide Web (WWW) to find information, send and receive electronic mail, buy and sell stocks, use e-commerce to shop, and many more. To surf the WWW, users use a browser, such as the Internet Explorer and Mozilla in order to view the websites that they preferred. However, with this project, people will no longer depend on the usage of the computers, but with the other updated technology that has ability to browse the Internet everywhere and anywhere they prefer. For this project, it will involve the usage of the mobile phones. Currently, there are many updated and sophisticated features have been added in the mobile phones. One of the new technologies is the WAP technology. WAP is currently known as Wireless Application Protocol.

People are relying on using the Short Message Service (SMS) and Multimedia Message Service (MMS) services as the alternatives to exchange the ideas instead of having the conversation by talking to the other using the mobile phones. With the WAP technology, people will depend more on their mobile phones to browse the Internet to get the information without having to sit in front of the computer. The basic function of the WAP is for mobile phones to be able to communicate with a server installed in the mobile phone network. WAP technologies make it possible for several people to communicate on the move using different devices. This application will be combined in the system to manage the events in Universiti Teknologi PETRONAS (UTP).

Basically, this system will ease the students, administrators and the club representatives for that particular society. The students, the lecturers, and other staffs will be updated with the newsletters and events for the particular society, alerted with the existence of the events and announcements, booked the equipment and hall to launch the events. This system is basically not only applicable for the students, lectures and other UTP staff, but also the public outside the UTP. The public will be able to know about the upcoming events in UTP.

For this system, in order to access WAP services, the users, will be needed a WAP product such as WAP-enabled mobile phone, PDA and so on. Besides, the WAP compatibility, WAP product has a large full graphic display and includes a micro-browser. It is pretty similar to surf the Internet on the PC with the method of surfing the system on a WAP device. The main difference is that WAP does not support fanciful graphics as WAP is written in Wireless Markup Language (WML). WAP support real time next information and simple DOS-like graphics.

1.2. PROBLEM STATEMENT

1.2.1. Problem Identification

From the observation made, there is actually no proper management of the events in UTP. Everything is paper-based done. An Event Management is currently not existed yet in UTP. Students and staff are alerted with the upcoming events when they read pamphlets or the newsletter pasted on the wall at the hostel and academic buildings.

Actually, there is lot of event that has been organized by the UTP staff and students itself. As what has been explained before, some societies have organized a lot of activities that are required participation from the students. Sometimes, student will miss out the information of those events because they are not alert about that event. Currently, students have been alerted with other alternative which is the use of Internet Relay Chat (IRC).

For the purpose of booking the booking the equipment for the particular event, students have to go to UTP IT Media Department. They have to call the responsible person when the time comes to use the equipment such as on the Convocation Day or else.

The entire problems scenario gives the difficulties to the students and other people involved keeping up-to-date with the events at the UTP and creating awareness of their participation for certain activities. Because of this problem, the new system, WAP-Based Event Management System is developed as the solution.

1.2.2. Significant of the Project

With the effective use of the system, it might help the society to ensure the participation of the students. This system will help to keep the student alertness and awareness of the events in UTP. Their participation can also be encouraged to ensure full support for certain events. The involvement or participation from the public can also be encouraged to enhance the good image of UTP as they have more systematic system for this kind of situation.

Students can be easily updated with the newsletter or any other information when browsing to the system by using PC or mobile phone, with the availability of WAP Technology. Even the administrator of the system can update their system and also club representative do the same at anytime that they want without worrying about the time or the office hour.

1.3. OBJECTIVES AND SCOPE OF STUDY

1.3.1. Relevancy of the project

The objectives of the project are as follows:

1. Instead of the web-based system for this Event Management System, WAP technology is used as an alternative to update people about the news
2. Give an easy, fast and comfortable access to the system from anywhere at anytime
3. To replace the paper-based system to inform the students about upcoming events
4. To enable easy, fast delivery, and alertness of relevant information and services to mobile users

1.3.2. Feasibility of the Project within the Scope and Time Frame

The scope of study covered in this project for both developing the system and the application are as following:

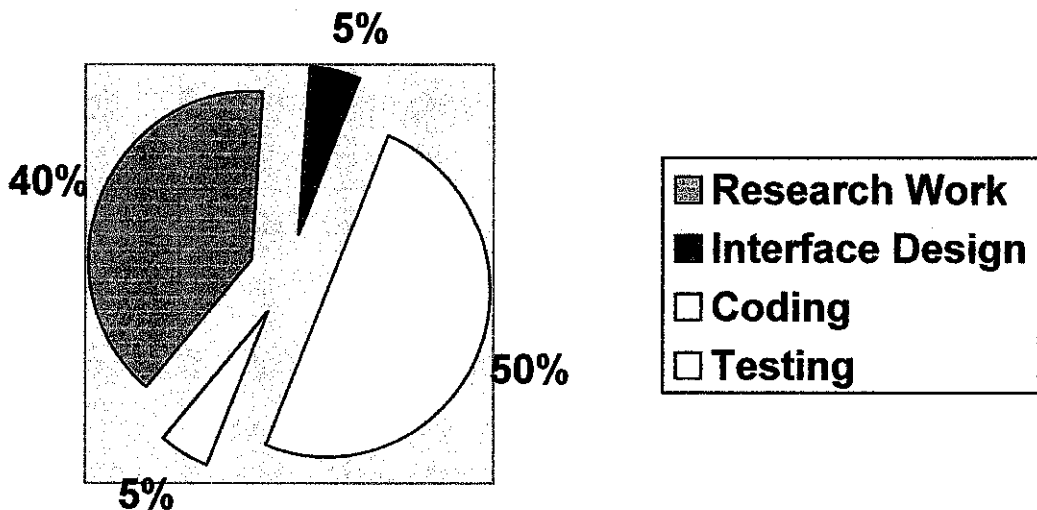
1. The use of the WAP technology, in searching the information and relevant services instead of application of SMS and MMS that is getting popular today
2. Make a request in WML, a language derived from HTML especially from wireless characteristics
3. This request is passed to a WAP Gateway that retrieves the information from the server, which is from the system database
4. The requested information is then sent from WAP Gateway to the WAP client, who is the mobile users that accessing the system
5. Students can view this system either using their computer online or from their mobile phones
6. Check the upcoming event that will be held on certain date
7. Update the announcement and event for future

8. Accounts for the administrator and the club representative are protected with the use of password
9. Club representative can register their proposed events before present the proposed events to the Jabatan Perkhidmatan Sokongan Pelajar (JPSP) or also known as Student Support Services

The scope of the project has been tailored to accommodate and fulfill the requirements of the final year project within the time frame given.

The development of this WAP-based UTP Event Management System project involves the research work, interface design, coding and testing. Figure below shows the cope of works which are represented in percentages.

- 40% in research work
- 5% in interface design
- 50% in coding
- 5% in testing



FINAL YEAR PROJECT PART I SCHEDULE

NO	DETAILS	WEEK NO													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Selection of project topic														
	-Propose topic		•												
2	Preliminary Research														
	-Project Planning														
	-Literature Review														
3	Submission of Preliminary Report								•						
4	Project research/work														
	-Literature Review														
	-Interface Design														
5	Submission of Interim Report											•			
6	Oral Presentation												•		

Figure 1.2 Final Year Project Part I Schedule

FINAL YEAR PROJECT PART II SCHEDULE

NO	DETAILS	WEEK NO													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Programming Research														
2	Development														
	- Prototype Development														
	- UTPEMS Development														
3	Submission of Progress Report			•											
4	Submission of Final Report Draft							•							
5	Submission of Final Report										•				
6	Oral Presentation													•	
7	Submission of Project Dissertation														•

Figure 1.3 Final Year Project Part II Schedule

CHAPTER 2

LITERATURE REVIEW

2.1 BRIEF HISTORY OF WAP

WAP defines an application environment (WAE) aimed at enabling operators, manufacturers, and content developers to develop advanced differentiating services and applications including a micro browser, scripting facilities, e-mail, World Wide Web (WWW) – to mobile handset messaging, and mobile access to fax. The WAP specifications continue to be developed by contributing members, who, through interoperability testing, have brought WAP into the limelight of the mobile data marketplace with fully functional WAP-enabled devices.

WAP refers to a wide range of technologies and protocols, all related to mobile Internet functionality. This functionality has roots dating back to the mid 1990s. At that time, several vendors were working on the mobile Internet problem as mobile device sales skyrocketed, and several competing technologies emerged:

- Nokia's Narrow Band Sockets (NBS) and Tagged Text Markup Language (TTML)
- Ericsson's Intelligent Terminal Transfer Protocol (ITTP)
- Unwired Planet's Handheld Device Markup Language (HDML)

Each technology had its own purpose, but some overlapped with others in various areas. This diversity threatened to fragment the wireless industry along provider lines. In mid 1997, the WAP Forum was founded to aid in communication among the developers and to spur a common set of protocols and technologies. In the same year, the industry took another step forward with the formation of the Open Mobile Alliance (OMA), which combined several distinct development and standards bodies into one.

2.2 HOW DOES WAP WORK

The delivery of the WML content is basically to the mobile devices over a cellular or related technology network. However, the delivery of many protocols and technologies takes the same route-namely, through a proxy server that bridges the gap between the wired Internet and the wireless service provider's network.

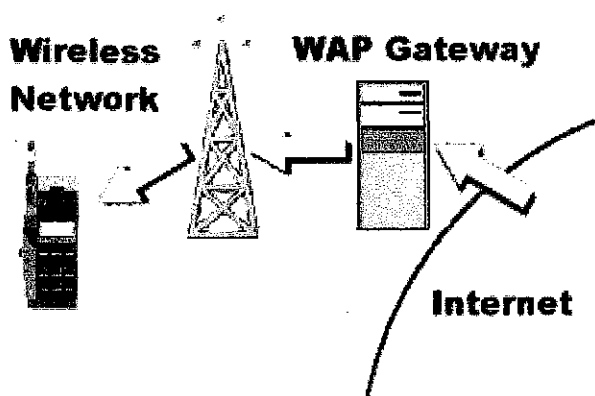


Figure 2.1 The WAP Gateway.

This proxy server manages the communication between the wireless client and the Internet server(s), acting as a gateway to the wired Internet. It caches content and in some cases even translates raw HTML into WAP-compatible protocols such as WML.

Many mobile devices have a built-in wireless browser. Although several different browsers are in use today among the various wireless providers, most browsers support WML, either natively or translated into HDML. A popular precursor to WML, the Handheld Device Markup Language (HDML), is still supported on several mobile platforms. However, due to the limitations of HDML (supporting only a handful of navigation tags and virtually no formatting tags), WML is becoming the most widely used mobile markup language. That said, if you plan to support a particular platform, it's best to test your code extensively on that particular device.

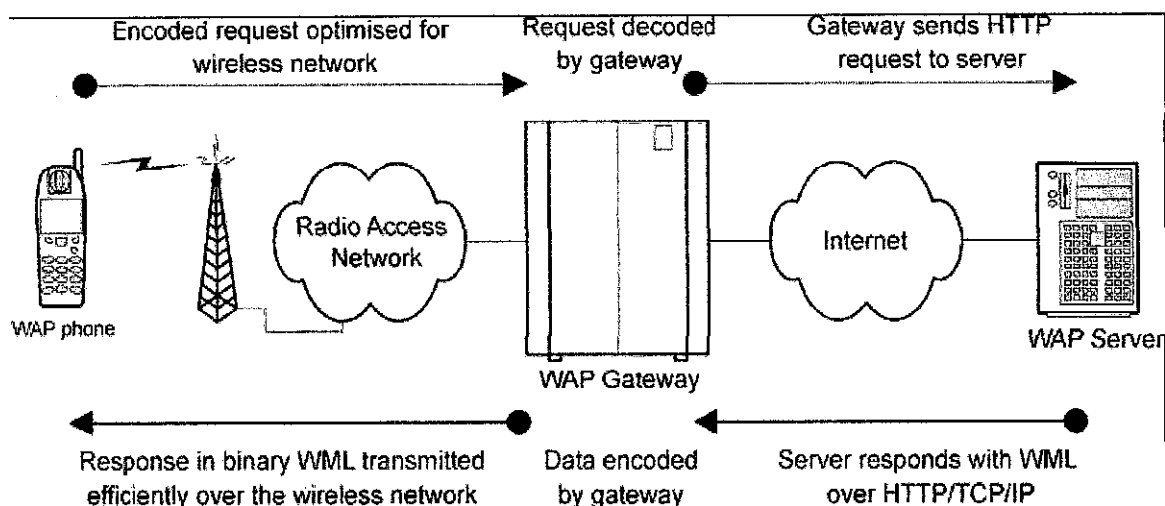


Figure 2.2: WAP System Concept

WAP is a protocol for the transmission of Web like content to mobile phones and other (usually wireless) devices with low-bandwidth links. Although commercial take-up has been slower than originally hoped, WAP still offers considerable promise as more content tailored to small devices becomes available. The standard WAP configuration is to have a WAP terminal communicating with a WAP gateway, which is then connected to the Web (figure 2.2). The terminal sends its request to the gateway, which then requests the content from the Web server. The Web server replies to the request with WML (Wireless Markup Language) files transmitted using HTTP over TCP/IP. Using HTTP limits the modifications required by the server in that only the content needs to change (WML rather than HTML), but WML is designed so that the gateway can optimize it for transmission over the low bandwidth link to the terminal. This link uses the WAP protocol stack, which can utilize a wide range of bearers, and has simpler protocols which avoid much of the overhead of standard IP protocols. A modified approach, which allows the browsing of standard Web pages, is to use an HTML filter in the gateway to convert standard HTML pages to WML (figure 2). However, on devices with small displays this is unlikely to be successful, with content having to be tailored to the device. Proposals for WAP 2.0 allow selection of information depending on the capabilities of the device, but this paper deals with the current WAP specification. There is little in the literature on the modeling of WAP traffic. One approach to modeling WAP traffic which has been suggested in the literature would be to modify an existing Web

traffic model, taking into account the optimizing (effectively compression) which is carried out by the gateway and HTML filter. However, with the exception of some PDAs which now have WAP browsers, most WAP devices have a very limited user interface which affects the way people use the device. Most WAP browsing uses WML pages. WAP system directly rather than the HTML filter, and a simple conversion from a Web model is not therefore appropriate. In addition, the relatively high cost of using WAP on a mobile phone in many cases reduces casual browsing. Information retrieved through high cost WAP services needs to be of value, and for it to be accessed on the move, time sensitive, at least from the point of view of the user. Another difficulty with a Web model is that a Web page usually consists of a main page with a number of other files, such as images, included within it. Web models therefore differentiate between the reading time for a complete page between page requests, and the loading times of files within a page. WAP uses a card and deck model. To reduce overheads, a number of these cards are transmitted in a single unit called a 'deck', and the user can therefore switch between cards of a deck without needing to download further information.

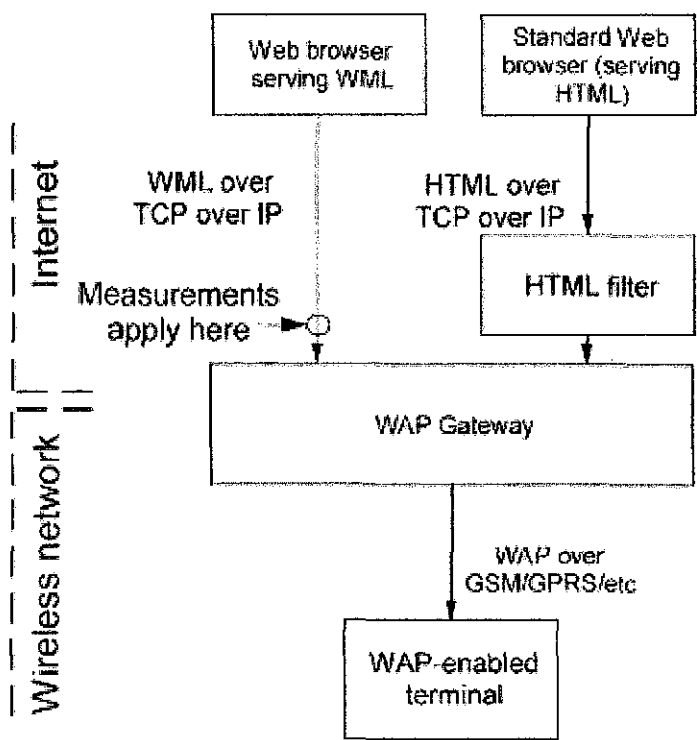


Figure 2.3: WAP System

2.3 ADVANTAGES OF WAP TECHNOLOGY

WAP users are not sitting in front of a PC. They are on the move, on their way to a meeting, or in a crowded train. Sometimes they are under pressure. Building usable WAP systems is not straight forwarded, and it is goal should be simple to use as possible. While this is true for an application, it is an absolute must in the context of WAP.

As the advantages of WAP technologies, it can be the multi-partied communication, which means that, WAP technologies makes it possible for several people to communicate everywhere. It also can bring implications for e-business:

- Easy and fast to the Internet
- Large choice in mobile phones. It is because most of them today support WAP
- Can be used to download abstract data types
- Can be built on any operating system
- International standard

All of these benefits and implications can be gained even though the users are far from their PC and just using the mobile phones, in order to gain the advantages of using this kind of technology. The extra flexibility provided by WAP mobile access has significantly increased the value of these systems and has provided the basis for innovative applications for the future.

2.4 AUTOMATED UTP EVENT MANAGEMENT SYSTEM

As the purpose to replace the manual event management system, the automated system for this kind of application is more applicable when using either WAP-based or web-based. From the observation, this kind of system is not widely implemented especially to the other universities and college around Malaysia. Generally, some institutions are more exposed with the multiple uses of SMS and MMS in their daily life.

Web-based systems have been implemented by other international universities. The students at the overseas are more adaptable with the updated technology, in order to enhance of studied at their own universities. Two international universities have been identified using the WAP-based system in their universities. In Berlin, stated by Kalkberner and Nebojsa in *Campus Mobile: Mobile Services for Campus Student Needs*, in the case of the Wireless Application Protocol (WAP) the consortium “Campus Mobile” was founded in order to investigate innovative services based on this technology. The consortium, which was founded for the development in this field, consists of partner from most relevant parts of the German telecommunication market. A large group of 3 universities were included: Technische Universität Berlin (TUB), Technische Fachhochschule (TFH) and Hochschule der Künste (HDK). It provides services on WAP-Homepage of the university, WAP-Homepage of faculties, Faculty Information, phone and address list, room locations (miniature maps/drawings), access to examination results and also information regarding history relevant places or buildings. In National University of Singapore (NUS), they implement the ActiveWAP, where all activity management details can be accessed at one single WAP page, anytime, anywhere on mobile. This system will give an easy, faster and comfortable way to access the online system for the particular application that related to their university anytime, and even anywhere they prefer. Hence, a WAP-based Event Management System was proposed in managing the events information in UTP.

2.5 FUTURE OF WAP

The tremendous surge of interest and development in the area of wireless data in recent times has caused worldwide operators, infrastructure manufacturers, terminal manufacturers, and content developers to collaborate on an unprecedented scale. This collaboration is happening in an area notorious for the diversity of standards and protocols. The collaborative efforts of the WAP Forum have devised and continue to develop a set of protocols that provide a common environment for the development of advanced telephony services and Internet access for the wireless market. If the WAP protocols were to be as successful as Transmission Control Protocol (TCP)/Internet Protocol (IP), the boom in mobile communications would be phenomenal. Indeed, the WAP browser should do for mobile Internet what Netscape did for the Internet.

As mentioned earlier, industry players from content developers to operators can explore the vast opportunity that WAP presents. As a fixed-line technology, the Internet has proved highly successful in reaching the homes of millions worldwide. However, mobile users until now have been forced to accept relatively basic levels of functionality, over and above voice communication are beginning to demand the industry to move from a fixed to a mobile environment, carrying the functionality of a fixed environment with it. Initially, services are expected to run over the well-established SMS bearer, which will dictate the nature and speed of early applications. Indeed, GSM currently does not offer the data rates that would allow mobile multimedia and Web browsing. With the advent of general packet radio services (GPRS) aiming at increasing the data rate to 115 KBPS along with other emerging high-bandwidth bearers, the reality of access speeds equivalent or higher to that of a fixed-line scenario becomes evermore believable. GPRS is seen by many as the perfect partner for WAP, with its distinct time slots serving to manage data packets in a way that prevents users from being penalized for holding standard circuitswitched connections.

CHAPTER 3

METHODOLOGY

Methodology part in this Interim Report will focus on the selected methodology that will be use in developing WAP-based UTPEMS. This chapter of the Interim will also state the tools that are or will be use in developing WAP-based UTPEMS, both in term of hardware and also software.

3.1. PROCEDURE IDENTIFICATION

Because of the development time constraint, traditional development process cannot be applied as one of the methodology in order to complete the project. Because of that, Rapid Application Design (RAD) methodology had been chosen as the backbone of the development process.

RAD is a development lifecycle designed to give much faster development and higher-quality results than those achieved with the traditional lifecycle. It is designed to take the maximum advantage of powerful development software that has evolved recently. RAD is a well-known methodology that enables organizations to develop strategically important systems faster while reducing development costs and maintaining quality. This is achieved by using a series of proven application development techniques, within a well-defined methodology.

RAD is a methodology for compressing the analysis, design, build, and test phases into a series of short, iterative development cycles. This has a number of distinct advantages over the traditional sequential development model. Iteration allows for effectiveness and self-correction. Studies have shown that human beings almost never perform a complex task correctly the first time. However, people are extremely good at making an adequate beginning and then making many small refinements and improvements.

Contrary with the traditional development methodology, RAD can implement development without completing a hundred percent of the design phases. The design phases will be developing thoroughly through out the development work. The figure followed will briefly exhibit how RAD differs with the traditional development methodology.

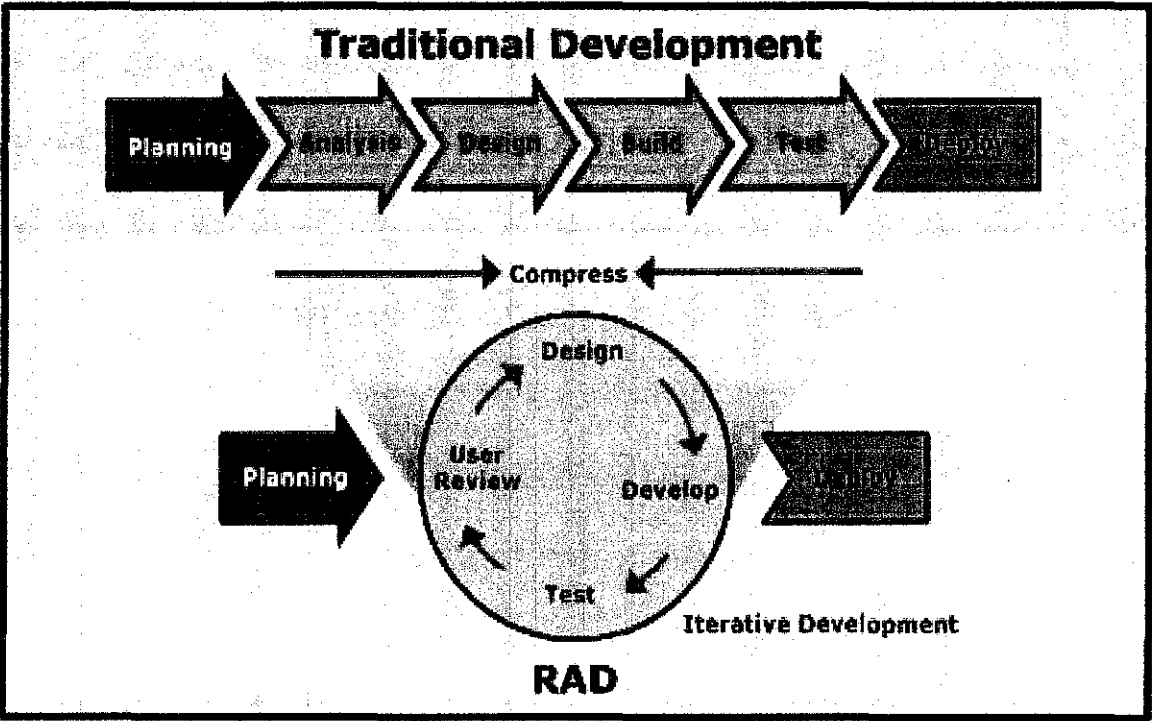


Figure 3.1: Rapid Application Design

The method that the figure illustrated falls under prototyping RAD method, where a certain module will be completed and tested iteratively, until the project completed. Following this, every step involve in the methodology will be briefly explained.

3.1.1 Planning

In this first phase, brainstorming and problem identification will be done. The clear objective will be derived from the problem that had been identified. Multiple solutions will be tested and researched. Literature review will be done. In this project, the problem statement and also the scope of study had been clearly stated in Chapter 1. The objectives had also been stated within the same chapter. And during this phase, the project timeline and milestone had also been develop according to the duration that had been stated out by the Final Year Project Committee.

3.1.2 Design

In this Design phase, the initial concept and storyboard of the whole WAP-based UTPEMS will be drawn. The design phase will correspond with the user feedback on each module that will be developing throughout the procedure. The design phase will be the first phase of the iterative phase of the RAD methodology. During this phase, the main module in the system will be identified and the selected targeted audience will be listed.

The design phase will be run through out the project duration, because of the nature of this iterative methodology. During this phase, the tools that are needed to be use in developing the system were identified. The best tools were selected in order to ease the development. The tools are expected to help cut the development time, while providing minimal cost.

3.1.3 Develop

The Develop phase is one of the time-consuming phases, whereby all the code-generating, programming and system-upgrading will be done. Using the module and also the story-board that were defined previously in the Design phase, the generation and development of the system can be started. Because of the nature of the iterative methodology, the development phase will also be influenced by the changing design phase.

The development also will be modularizing, with an early prototype being develop at first. The prototype will be developing according to the percentage of the complete system, which means that the prototype can be use, however in a limited functionality. The development will also be depending on the feedback that will be received from the target user during the user review phase.

3.1.4 Test

During this phase, the target audience that had been defined and categorized during the Design phase will be ask to test the prototype that had been develop. The prototype will be made available to the intended user. The users will be expected to perform the usage of the system. The test will be conducted in the user own environments, which can help the system blend in with the environment of each target user.

3.2 TOOLS REQUIRED

The tools used for the construction and programming purposes are:

3.2.1 Software:

- **PHP and WML:** programming language to develop the system PHP generally runs on a web server, taking PHP code as its input and creating Web pages as output, however it can also be used for command-line scripting and client-side GUI applications. PHP can be deployed on most web servers and on almost every OS platform free of charge. The PHP Group also provides the complete source code for users to build, customize and extend for their own use.

Server-side scripting

Originally designed to create dynamic web pages, PHP's principal focus is server-side scripting. While running the PHP parser with a web server and web browser, the PHP model can be compared to other server-side scripting languages such as Microsoft's ASP.NET system, Sun Microsystems' JavaServer Pages, mod_perl and the Ruby on Rails framework, as they all provide dynamic content to the client from a web server. To more directly compete with the "framework" approach taken by these systems, Zend is working on the Zend Framework - an emerging (as of June 2006) set of PHP building blocks and best practices; other PHP frameworks along the same lines include CakePHP, PRADO and Symfony.

The LAMP architecture has become popular in the Web industry as a way of deploying inexpensive, reliable, scalable, secure web applications. PHP is commonly used as the P in this bundle alongside Linux, Apache and MySQL. PHP can be used with a large number of relational database management systems, runs on all of the most popular web servers and is

available for many different operating systems. This flexibility means that PHP has a wide installation base across the Internet; over 19 million Internet domains are currently hosted on servers with PHP installed.

Command-line scripting

PHP also provides a command line interface SAPI for developing shell and desktop applications, daemons, log parsing, or other system administration tasks. It is increasingly used on the command line for tasks that have traditionally been the domain of Perl, Python, awk, or shell scripting.

- **WAP Proof** : as the compilers for WML and WMLScript, and it also contains an emulator to test the application

3.2.2 Hardware:

- **Mobile Phones**

The mobile phone that could be used here requires only minimum specifications. The most important criteria are that it has keypad, screen, and supports Java™ Applications and Bluetooth. The mobile phone that could be used for this application must be compatible with application tool that it was created upon. This project will be using NOKIA 6600 as its mobile phone hardware. NOKIA 6600 supports Java™ Applications with Java™ MIDP 2.0 specifications. This further justifies the software that would be used for the mobile application.

CHAPTER 4

RESULT AND DISCUSSION

4.1 REQUIREMENT ANALYSIS

At the early stage, some analysis methods have been made to find out the satisfaction of users for the WAP-based UTP Event Management System. First method that has been done was observation, where the current system has been observed to identify the problems and the solution for those problems.

4.2 REQUIREMENT MODELING

4.2.1 Process Flow Chart

The process flow chart shows the flow of how the system is working, especially for the users, and administrative staff that manage the system. In this process flow, it involves some processes. First of all, when the users starts using this WAP system, they will be directed to the menu option, where they can choose either to view the latest announcements regarding the events, and the upcoming events that will be held soon or login as authorized user.

As the authorized users, they have to key-in their username and passwords as the validation to enter to the next options. For invalid users, they will be directed back to the main menu option earlier. When they successfully login to the systems, they will have the others optional options, they can either update the new event, register the events to the Student Support Services (JPSP), or booking the equipment for the particular event. For the event approval options, the person in-charge from JPSP will then approve or reject the summary proposal of the events, and they need to see them for the further details of information. All the submission done will be updated in the database, which is Event Database.

4.2.2 System Interface Design

The UTPEMS basically are using the WAP Emulator which is in this case I use the WAP Proof as the WAP interface. This WAP Proof will connect with the web page that contain the UTP Event Management System which is has all the functions that have been described in the previous chapter.

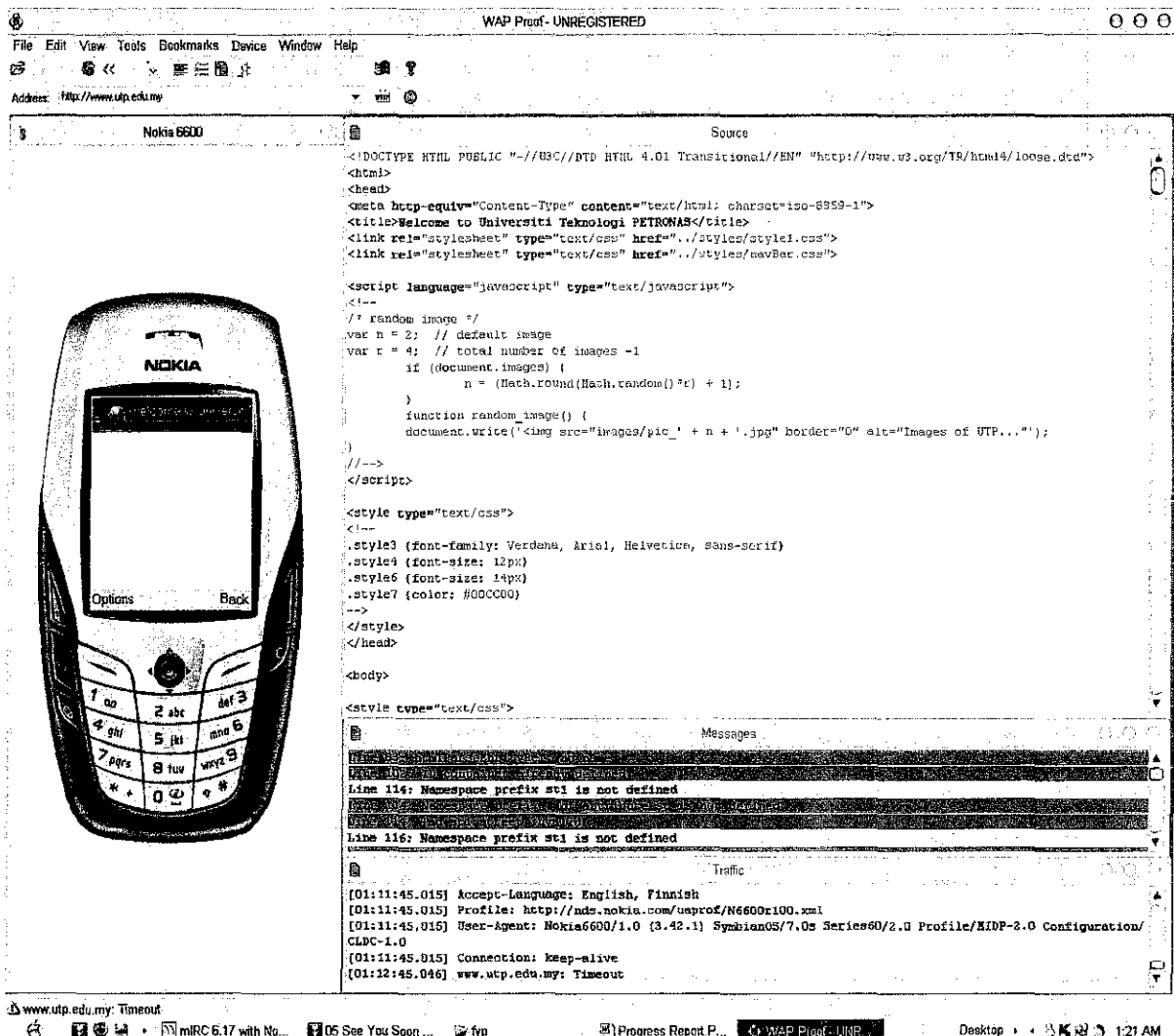


Figure 4.2: The WAP Proof Interface

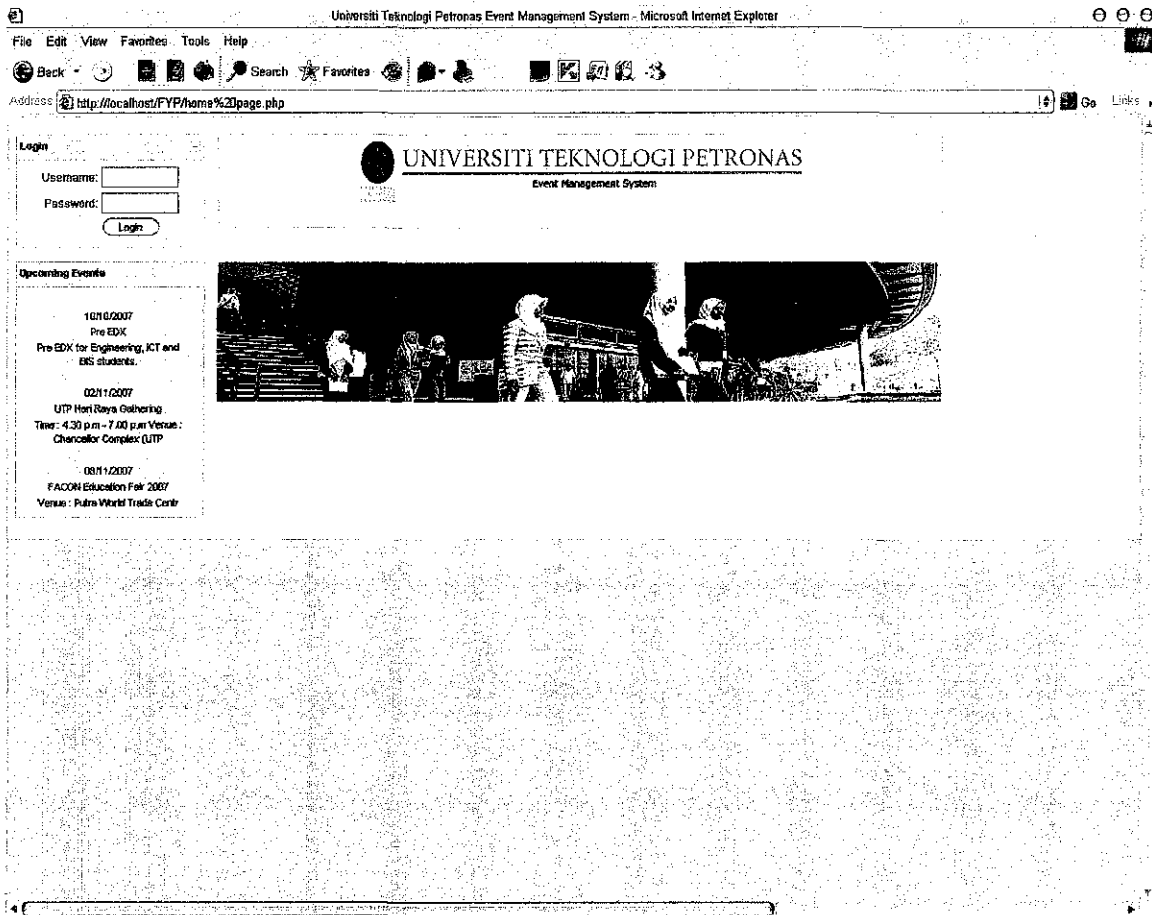


Figure 4.3: UTP Event Management System Home Page

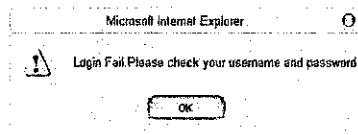
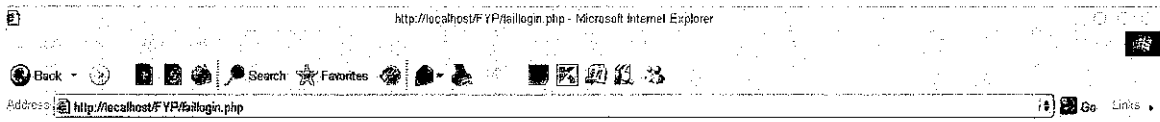


Figure 4.4: Error page

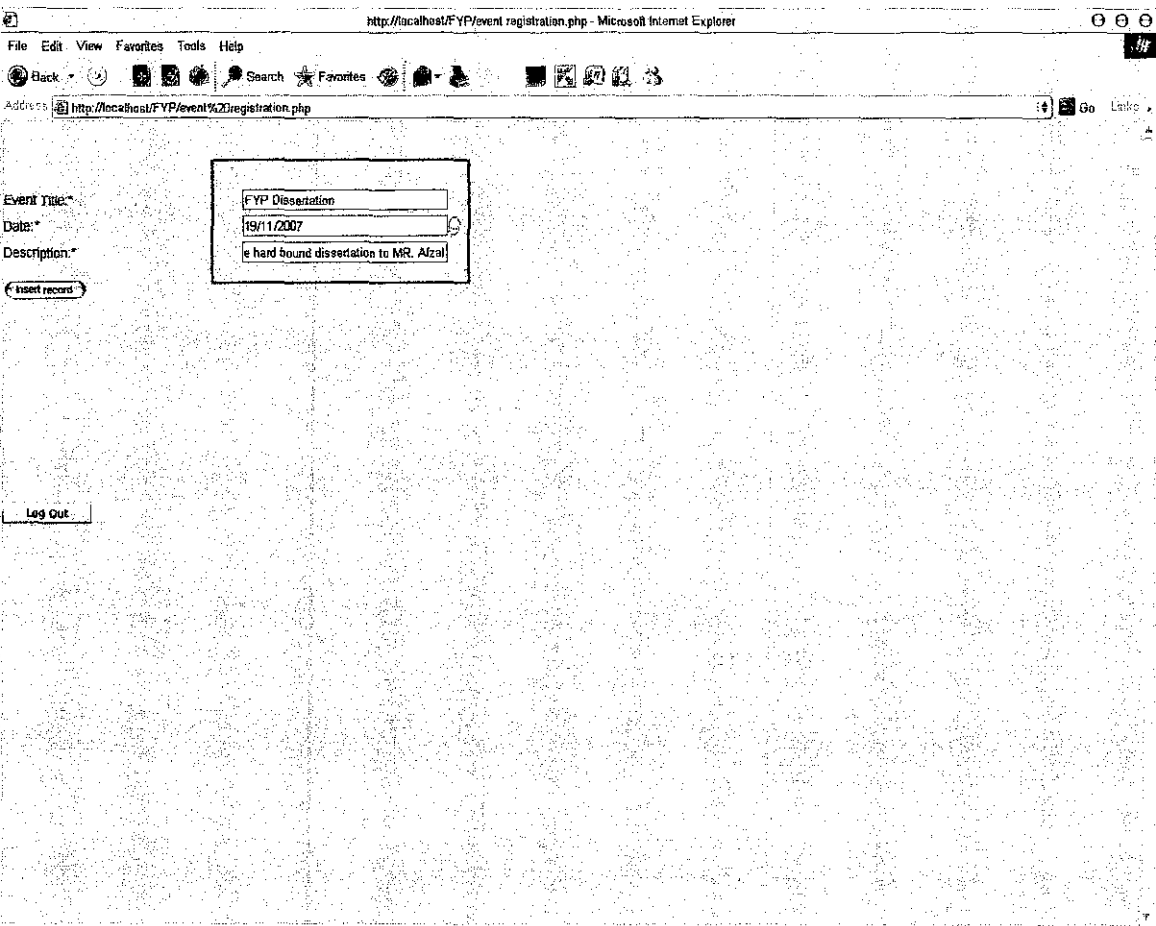


Figure 4.5: Insert details and record

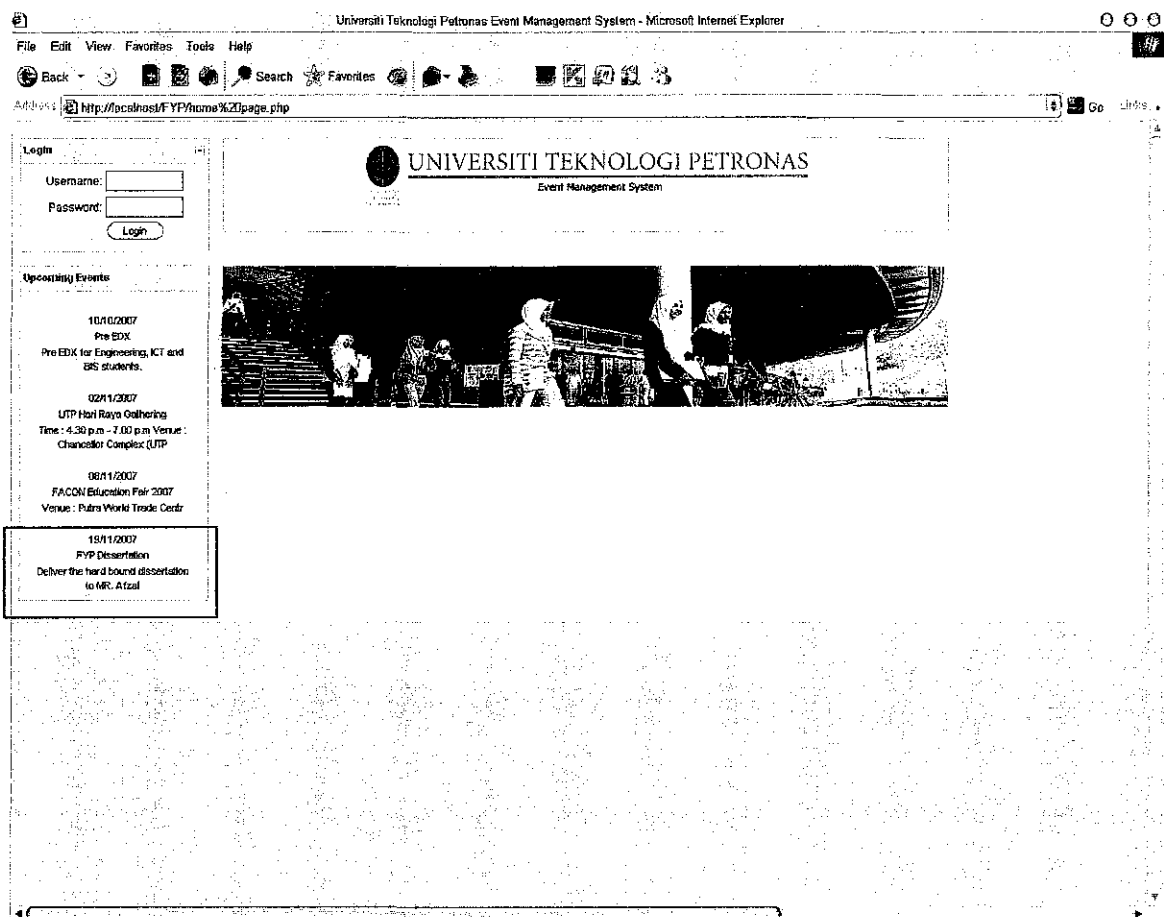


Figure 4.6: New details and record will be display at the home page

For the web site server, I use PHPMyAdmin because it is easy and reliable as a server and system database.

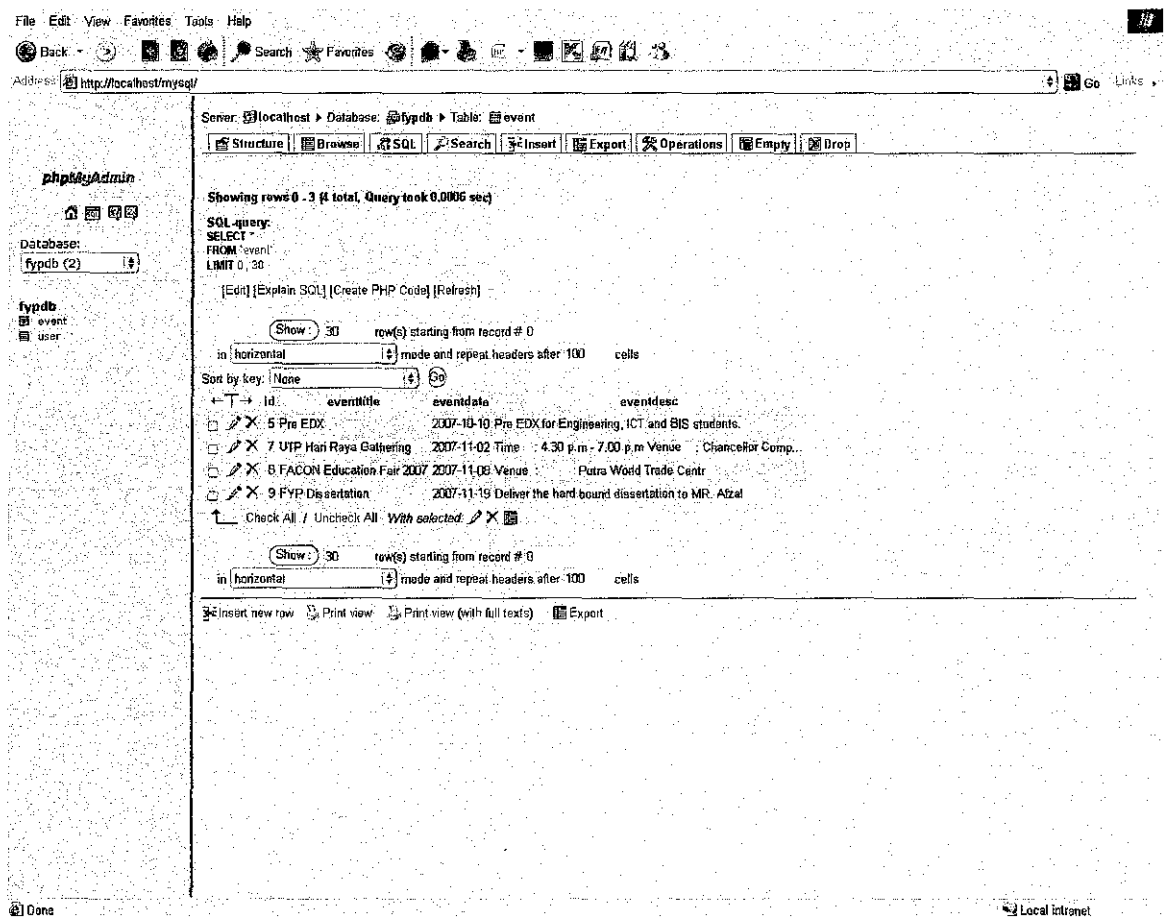


Figure 4.7: PHPMyAdmin Database and server

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

Based on the research that has been made, WAP today is tied to the Web mindset in many people's mind. These people see WAP as just a technology that gives mobile devices access to the Internet directly or through gateway. They find it confusing that so many new network protocols, similar but different from the Web protocol, have been developed. However, it is possible that WAP will enable a new and completely different kind of content network in the more distant future.

As wireless devices grow in power, it is possible that someday the WAP and Web models will merge into a single standard. It is also likely the models will diverge, as the way in which we use small mobile network devices will probably always as specialized. Because WAP is based on a layered design, it should be more easily adapted to future needs. From all that have heard, read, and seen is that WAP does have a future, but a future that is largely limited to specialist transactional applications that can be performed on a WAP phone. While WAP has achieved limited success at the start of m-commerce development, the long-term outlook for WAP is very narrow, with further development limited to specialized, short transaction-oriented applications for WAP-enabled cell phones.

Currently, the WAP-Based UTP Event Management System can only be viewed by using the emulator. The reason why the system cannot be using the WAP-enabled mobile phone is that the WML version used for the system development is not supported by the WAP-enabled mobile phone such as Nokia, Sony Ericson and also Motorola. As for the future work, an updated WML version should be used so that the system is accessible using the WAP-enabled mobile phone. At the same time, the database connection problem can be solved and the system can be completely functioning.

In addition, as for the future enhancement, providing when the UTP network is good, the Web-Based UTP Event Management System can be developed. Together with the combination of the UTP Event Management System, all the objectives can be achieved, whereby the users are more alert and updated with all the events information from the several societies. This will encourage their participation in the events. In conclusion, by developing this WAP-based Event Management System, the problems encountered by UTP students and staff can be eliminated. They can obtain updated events information on their WAP-enabled mobile phones.

REFERENCES

- [1] McComb, Dave , 2004, *How Does WAP Application Can Be Embedded To The Other Applications*, USA, Elsevier
- [2] Davies, John & Fenser, Dieter & Van Harmelen, Frank, *WAP Architecture and How Does WAP Work* , USA, John Wiley & Sons LTD
- [3] Azilah Binti Madulan @ Alias, 2005, *WAP Application with Event Responses System Using Java*, Degree Thesis, Universiti Teknologi Petronas, Malaysia
- [4] “OWL Web Ontology Language Overview”, W3C, (<http://www.w3.org/TR/owl-features/>)
- [5] “SPARQL Query language for RDF”, W3C, (<http://www.w3.org/TR/rdf-sparql-query/>)
- [6] “What is WAP”, (<http://www.webopedia.com/TERM/W/WAP.html>)
- [7] “WAP and WML Tutorial”, (<http://www.w3schools.com/wap/default.asp>)
- [8] Just, Kris, “*WML & WMLScript A Beginner’s Guide*”, Osborne/McGraw-Hill
- [9] Anderson, Christopher, February 14th 2001, “ WAP: Now and Into The Future”.