

# E-MEETING SYSTEM USING JSP

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## ABSTRACT

The rapid growth in the application development technology urges the enhancement of functions quality provided in KUKTeM's e-Meeting for secretaries and secretariats. Currently in the KUKTEM e-meeting system, attendees will receive their minute's post-meetings where modifications can only be done then or in the next meeting session. Since the purpose of an on-line e-Meeting system is to save time, this method clearly is in opposed of that. An online real-time e-Minute will instead increase the meeting efficiency and effectiveness plus it will also save time and cost. E-poll will replace ballot papers and it will enable the meeting attendees to get precise and accurate results immediately after polling is over. System Development Life Cycle (SDLC) will be the main methodology used as the process flow for this project. This system will be developed using the advantage provided by the Java Server Page (JSP). The prototype developed will complement and enhance the features of the current KUKTeM e-Meeting System.

## ABSTRAK

Perkembangan pesat teknologi pembangunan aplikasi mendorong kepada peningkatan kualiti fungsi e-Meeting untuk kegunaan setiausaha dan urusetia di Kolej Universiti Kejuruteraan & Teknologi Malaysia (KUKTeM). Sistem e-Meeting KUKTeM yang sedia ada hanya membolehkan perubahan pada minit dilakukan setelah berakhirnya mesyuarat. Kaedah ini bukanlah suatu yang efisien kerana fungsi e-Meeting adalah untuk mempercepatkan penyediaan minit. Namun begitu, e-Minutes dalam masa nyata dapat meningkatkan kecekapan dan keberkesanan mesyuarat dan juga mampu menjimatkan masa dan kos perbelanjaan. E-Poll pula akan menggantikan kertas undi dan membolehkan ahli-ahli mesyuarat mendapat keputusan undian yang tepat dan jelas sebaik sahaja proses pengundiaan tamat. Kitaran Hidup Pembangunan Sistem atau lebih dikenali sebagai “SDLC” adalah metodologi yang digunakan bagi proses aliran untuk melaksanakan projek ini. Sistem ini akan dibangunkan dengan menggunakan Java Server page (JSP). Prototaip yang dibangunkan secara langsung dapat menambahbaikkan ciri-ciri yang sedia ada pada e-Meeting di KUKTeM.

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**LIST OF ABBREVIATION**

E-Meeting	-	Electronic Meeting
TCP/IP	-	Transmission Control Protocol / Internet Protocol
OSI	-	Open Systems Interconnection
UDP	-	User Datagram Protocol
LAN	-	Local Area Network
APIUM	-	Azusa Pacific University's Secure Instance Messaging Service
APU	-	Azusa Pacific University
BSD	-	Berkeley Software Distribution
API	-	Application Program Interface
ABI	-	A Binary Interface
IPS	-	Internet Protocol Suite
TELNET	-	Terminal Network
HTTP	-	Hypertext Transfer Protocol
FTP	-	File Transfer Protocol
PHP	-	Hypertext Preprocessor
URL	-	Unified Resource Locator
CGI	-	Common Gateway Interface
PC	-	Personal Computer
SDK	-	Software Development Kit
ANSI-SPARC	-	American National Standard Institute-Scalable Processor Architecture
JDBC	-	Java Database Connectivity
DBMS	-	Database Management Systems
RDBMS	-	Relational Database Management Systems

DBA	-	Database Administrators
MAC	-	Machine Address Control
RAM	-	Random Access Memory
OS	-	Operating System
NT	-	New Technology
JSP	-	Java Server Page
JRE	-	Java Real-time Environment
DNS	-	Domain Name Service
IP	-	Internet Protocol
DHCP	-	Dynamic Host Communication Protocol
WEP	-	Wireless Encryption Protocol
DFD	-	Data Flow Diagram
SQL	-	Structured Query Language
WINS	-	Windows Internet Naming Service
IIS	-	Internet Information Server

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## CHAPTER 1

### INTRODUCTION

#### 1.1 Background Study

Technology is the knowledge of using tools and machines to do tasks efficiently. It is very important to help us achieve goals in business and in other aspects of life. Today, people use technology to improve their ability to do work. In this new era, it is said that efficiency, speed and effectiveness are three significant issues especially in telecommunication, education and business. That is why computer usage is very important to help us achieve great targets. The evolution of information technology has cause management system and information delivering being designed and improved from time to time.

As many know, an e-Meeting System is one of the best tools used for meeting purposes. It is used to improve the scheduling of meetings for organizations that always handle meetings. The e-Meeting which is referred to is neither a teleconferencing system nor a tool that supports video or an audio collaboration but, it is a system which is similar to the one currently used in University College of Engineering & Technology Malaysia (KUKTeM). In KUKTeM's e-Meeting, the application is basically used for meeting invitations and to produce minutes after meetings have been carried out. However, how do we verify whether the minutes produced by the secretary are valid and

whether the information is adequate. This is one of the reasons why this thesis of application is being carried out.

## 1.2 Problem Statement

We cannot deny how humans forget things easily or how they tend to get confused effortlessly. Although some may have a brilliant way of remembering or recall number of errands daily, however they might burden their brains by loading too much affairs into their brain cells which with time will cause damage to the whole body system. Before technologies have moved forward, papers have always been the only choice for all company secretaries to set appointments or schedules and produce minutes of meetings. However, with the expansion of better technology today, humans do not have to solely depend on papers. They can now choose to have the kind of working environment that they would like to experience. As time goes by, better technologies have been created and more developments have been made to help us accomplish our tasks and responsibilities.

Generally, an e-Meeting tool is used to facilitate an electronic meeting. Many companies today use e-Meeting to assist them during coordinating their meetings. This includes facilities for developing agendas, conducting breakout sessions for discussions, and messaging services for communicating with meeting participants. One of the functions in e-Meeting is to distribute minutes of meeting produced by secretary. But, the question here is, how the data entered by the secretary will be verified whether it is valid and full of meeting information before every of the meeting attendees receives them. One of the ways that could be a solution is by making all meeting attendees to view the minutes produced by the secretary while the meeting is on progress. Every item that is not written or incorrectly written in the minutes can be amended by all attendees by informing the secretary to make the amendments. This way, all meetings will have better minutes produced as it has being viewed and verified by everyone

before it is being distributed. Although some may say that a projector can be a solution however, it does not seem practical because displaying the minutes via projectors may disrupt the meeting flow as well as distracting their concentration. In a meeting where attendees need to focus on each others, displaying the minutes via projectors may disrupt the meeting flow as well as distracting their concentration. Moreover, a projector is not only expensive, but it may only be suitable for a smaller group meeting instead of larger ones. Eventually, adding an e-Minutes function in the e-Meeting System is one of best ways to compliment and enhance the KUKTeM e-Meeting System as it will quicken the preparation of minutes documents.

Another meeting activity is polling where attendees will cast their votes manually. In the current e-Meeting System, an e-Poll function is not included where attendees will have to make their votes by writing on a piece of paper. By developing a prototype with the e-Poll function, it will replace ballot papers and will enable the meeting attendees to get precise and accurate results immediately after polling is over. These are few of the reasons why there is a need for a prototype to be developed to add up a few characteristics that are not included in the current e-Meeting used in KUKTeM.

### **1.3 Objective**

In this system development, the objectives are:

- i. To develop a prototype online system for the e-Minutes module.
- ii. To develop a prototype online system for the e-Poll module.



## 1.4 Scope

- i. The scope of this project is within KUKTeM environment.
- ii. It will allow communication between 3 clients connected to 1 server.
- iii. This system will run on a service pack 2 XP Professional.
- iv. It will use only one password for every user to login.
- v. It will use the *Transmission Control Protocol / Internet Protocol* (TCP/IP) as it is the same protocol used in KUKTeM's e-Meeting.
- vi. The online application will be able to view not more than 4000 characters of data in the minute's documents.
- vii. The sensitive resources like password will be stored in the database.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 A Study on KUKTeM e-Meeting

The current e-Meeting in KUKTeM is used by staffs to carry out meeting appointments and to distribute minutes of meeting for all meeting attendees. The study on KUKTeM e-Meeting involves the internet protocol and IP addresses.

##### 2.1.1 Transmission Control Protocol / Internet Protocol (TCP/IP)

*Transmission Control Protocol / Internet Protocol (TCP/IP)* is a type of internet protocol used as a protocol in KUKTeM network environment. It is responsible for the delivery of packets between host computers. IP is a connectionless protocol. It does not establish a virtual connection through a network prior to connecting transmission as it is the job for higher level protocols.(Behrouz A. Forouzan, 2000)

The TCP/IP protocol suite, used in the Internet, was developed prior to the Open Systems Interconnection (OSI) model. Therefore, the layers in the Transmission Control Protocol/Internetworking Protocol (TCP/IP) protocol suite do not match exactly with

those in the OSI model. The TCP/IP protocol suite is made of five layers: physical, data link, network, transport and application. The first four layers provide physical standard, network interface, internetworking, and transport functions that correspond to the first four layers of the OSI model. The three top most layers in the OSI model, however, are presented in TCP/IP by a single layer called the *application* layer.(Behrouz A. Forouzan, 2000)

TCP/IP is a hierarchical protocol made up of interactive modules, each of which provides a specific functionality, but they are not necessarily interdependent. Whereas the OSI model specifies which functions belong to each of its layers, the layer of the TCP/IP protocol suite contain relatively independent protocols that can be mixed and matched depending on the needs of the system. The term *hierarchical* means that each upper-level protocol is supported by one or more lower-level protocols. At the transport layer, TCP/IP defines two protocols. Transmission Control Protocol (TCP) and User Datagram Protocol (UDP). At the network layer, the main protocol defined by TCP/IP is Internetworking Protocol (IP), although there are some other protocols that support data movement in the layer.(Behrouz A. Forouzan, 2000)

TCP/IP provides a communication between numbers of different networks designed by different vendors into a network of networks called the "Internet". TCP/IP uses a client/server model whereby one computer functions as server and another computer functions as client. Client/server describes the relationship between two computer programs in which one program, the client, makes a service request from another program, the server, which fulfills the request. TCP/IP is used by KUKTeM because it is a protocol that ensures reliable, ordered, and unduplicated delivery of data, handles flow control, connection oriented and provides explicit connection creation and termination.(Behrouz A. Forouzan, 2000)

### **2.1.2 IP Address**

An IP address is an *identifier* of every computer and other devices such as *gateway, router* and *bridge*. It is a 32-bit number that is written in four different sections where each section represents different information that was being created. An IP address is unique to avoid it from overlapping or intersecting with other IP address that is already being used.(Behrouz A. Forouzan, 2000)

## **2.2 A Study on the Current Systems**

A study has been made on several current systems which have some similarities in its environment for the development of the e-Meeting in this project. The mentioned systems are Microsoft NetMeeting, SmileTiger eMeeting Server Version 5.3 and APUIM (Azusa Pacific University's Secure Instance Messaging Service) which are also classified as instant messaging software.

### **2.2.1 Microsoft NetMeeting**

NetMeeting is a real-time communications tool from Microsoft that allows individuals to communicate in pairs or groups over the internet or intranet (an IP enabled LAN). It has several functions to operate with 2 or more individuals in a meeting.

### **2.2.1.1 Scope**

- i. The system applies a server/client model and operates through the Internet or Intranet connection (TCP/IP)
- ii. The server knows whether or not user is connected and what are the current IP addresses connected to the server.
- iii. Only associates that are connected to the server will get into the meeting.
- iv. Once a communication has been initiated, user can enter text by typing on the keyboard and the entered text will appear on the other user's monitor.

### **2.2.1.2 Remarks**

Microsoft NetMeeting allows users to join in the meeting once they are connected to the server.

### **2.2.2 SmileTiger eMeeting Server Version 5.3**

SmileTiger Emeeting Server is a web-based enterprise conferencing software system. It features white board, remote PowerPoint presentation, polling, question and answer and other related features.

### **2.2.2.1 Scope**

- i. Every White Board enables the meeting presenter to draw on a blank page. Everybody has the White Board control permission, so it is also a way for a group to work on a discussion by illustrating on the board.
- ii. Slide Show feature enables you to remotely give Microsoft PowerPoint presentation.
- iii. When there are many operations going on simultaneously in one conference room, the participants may be looking at different panels at one moment. For example, some people may be looking at Whiteboard while the others are looking at ongoing Slide Show. This can be solved by synchronizing all conference participants where all participants to look at the same panel.
- iv. The polling feature enables the moderator to poll the meeting participants during a meeting.

### **2.2.2.2 Remarks**

This software provides multiple service modes for different application scenarios. It can be dynamically configured and used in corporate meeting.

### **2.2.3 APUIM (Azusa Pacific University's Secure Instance Messaging Service)**

APIUM enables secure electronic real-time communication amongst APU community members over the Internet, and continued interaction with the extended community via public instant messaging gateways.

### 2.2.3.1 Scope

- i. APUIM provides secure messaging amongst the APU community from anywhere on the Internet.
- ii. Meet up with APU people in chat rooms, for class, for business, or for fun.
- iii. Log in from multiple devices or locations and APUIM will route your message to the intended destination.

### 2.2.3.2 Remarks

This system implements an in-house Instant Messaging solution which will allow the primary APU community to voluntarily communicate with each other securely over the APU Network and public Internet, while allowing continued interaction with the extended community through public instant messaging networks.

## 2.3 A Study on *Windows Sockets* (WinSock)

A study on Windows Sockets (WinSock) has been made in this project. It includes the basic concept of Windows Socket and the server/client model. The Windows Sockets specification defines a network programming interface for Microsoft Windows which is based on the "socket" paradigm popularized in the Berkeley Software Distribution (BSD) from the University of California at Berkeley. It encompasses both familiar Berkeley socket style routines and a set of Windows-specific extensions designed to allow the programmer to take advantage of the message-driven nature of Windows. (Quinn and Shute, 1995)

The Windows Sockets Specification is intended to provide a single Application Program Interface (API) to which application developers can program and multiple network software vendors can conform. Furthermore, in the context of a particular version of Microsoft Windows, it defines A Binary Interface (ABI) such that an application written to the Windows Sockets API can work with a conformant protocol implementation from any network software vendor. This specification thus defines the library calls and associated semantics to which an application developer can program and which a network software vendor can implement.(Quinn and Shute, 1995)

This version of the Windows Sockets specification defines and documents the use of the API in conjunction with the Internet Protocol Suite (IPS, generally referred to as TCP/IP). Specifically, all Windows Sockets implementations support both stream (TCP) and datagram (UDP) sockets.(Quinn and Shute, 1995)

### **2.3.1 Basic Concept of Socket**

The basic building block for communication is the socket. A socket is an endpoint of communication to which a name may be bound. Each socket in use has a type and an associated process. Sockets exist within communication domains. A communication domain is an abstraction introduced to bundle common properties of threads communicating through sockets. Sockets normally exchange data only with sockets in the same domain (it may be possible to cross domain boundaries, but only if some translation process is performed). The Windows Sockets facilities support a single communication domain: the Internet domain, which is used by processes which communicate using the Internet Protocol Suite.(Quinn and Shute, 1995)

Sockets are typed according to the communication properties visible to a user. Applications are presumed to communicate only between sockets of the same type, although there is nothing that prevents communication between sockets of different