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Quizzes via Short Message Service

By

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Dissertation submitted in partial fulfilment of
the requirements for the
Bachelor of Technology (Hons)
(Information Technology)

JANUARY 2008

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CERTIFICATION OF APPROVAL

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A project dissertation submitted to the
Information Technology Programme
Universiti Teknologi PETRONAS
in partial fulfilment of the requirement for the
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(INFORMATION TECHNOLOGY)

Approved by,

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UNIVERSITI TEKNOLOGI PETRONAS

TRONOH, PERAK

January 2008

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.



MUHAMAD FAIZ BIN MOHAMED WAZIR

ABSTRACT

Quizzes are usually held early in the lecture which is good because it will make sure that students do attend the lectures early. However, there are some students that cannot come to the lectures as early as others and missed it. In addition, sometimes the announcement about the quizzes does not reach the student effectively, some student might have problem accessing the e-learning website and there might be some student that did not attend previous class when the announcement about the quizzes were made. There is also possibility that the answer sheets submitted will be misplaced by the lecturers. The objective of this project is to develop a new quizzing system that will help busy lecturers to be more organized and allow them to manage their quizzing system effectively. The system developed can broadcast questions to all students that enrolled the subject and receive the answers submitted by the students. It also able to stores the answers submitted and checks whether the answers received is correct or not. In developing this system, Rapid Application Development method is used considering the time frame given is quite short. This system was developed using the Ozeki Message Server, Microsoft Excel and MySQL. With the help of this system, the current quizzing system will be more efficient and organized. Meanwhile, for future development, this system can be improved with more features and a better architecture and codes style.

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TABLE OF CONTENTS

CERTIFICATION	i
ABSTRACT	iii
ACKNOWLEDGEMENT	iv
CHAPTER 1:	INTRODUCTION	1
	1.1	Background of Study	.	.	.	.	.	.	1
	1.2	Problem Statement	.	.	.	.	.	.	5
	1.3	Objectives of Study	.	.	.	.	.	.	6
	1.4	Scope of Study	.	.	.	.	.	.	6
CHAPTER 2:	LITERATURE REVIEW	.	.	.	.	.	.	.	7
CHAPTER 3:	METHODOLOGY	.	.	.	.	.	.	.	15
	3.1	Development Methodology	.	.	.	.	.	.	15
	3.2	System Hardware and Software	.	.	.	.	.	.	17
CHAPTER 4:	RESULT AND DISCUSSION	.	.	.	.	.	.	.	18
	4.1	User Interface Design	.	.	.	.	.	.	18
	4.2	System Architectural Design	.	.	.	.	.	.	19
	4.3	Features	.	.	.	.	.	.	20
CHAPTER 5:	CONCLUSION AND RECOMMENDATION	.	.	.	.	.	.	.	29
REFERENCES	.	.	.	.	.	.	.	.	30
APPENDICES	.	.	.	.	.	.	.	.	31

LIST OF FIGURES

Figure 1: Traditional way vs. Rapid Application Development	15
Figure 2: System Interface	18
Figure 3: User Login Screen	20
Figure 4: Installed Drivers Screen	21
Figure 5: Installed Plug-ins Screen	22
Figure 6: Composing and Broadcasting Message	23
Figure 7: Message Management	24
Figure 8: Sending Message Using Database	25
Figure 9: Database Login Screen	26
Figure 10: Database Interface	27
Figure 11: Ozekimessagein Table	28
Figure 12: Ozekimessageout Table	28
Figure 13: How SMS Works	I
Figure 14: System Architecture	II

LIST OF TABLES

Table 1: Average Daily Messages Sent and Received According to Gender	15
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CHAPTER 1

INTRODUCTION

1. INTRODUCTION

1.1. Background of Study

The Short Message Service (SMS), often called text messaging, is a means of sending short messages to and from mobile phones. It was originally defined as part of the GSM series of standards in 1985 as a means of sending messages of up to 160 characters, to and from GSM mobile handsets. The term SMS is frequently used in a non-technical sense to refer to the text messages themselves, particularly in non-English-speaking European countries where the GSM system is well-established. Most SMS messages are mobile-to-mobile text messages, although the standard available also supports other types of broadcast messaging as well. The text composed can comprise of words, numbers, or an alphanumeric combination. Each short message can be up to 160 characters in length. Often SMS Mobile Terminal Services are offered along with voice mail notifications, which account for the vast majority of SMS traffic on the network.

SMS gateways exist to connect mobile SMS services with instant message (IM) services, the World Wide Web (WWW), desktop computers, and even landline telephones. Devices which can connect to mobile phones and PDAs through protocols such as Bluetooth can also sometimes use that link to send SMS messages over the wireless network. SMS arose as part of the widely deployed GSM protocol, but is now also available with non-GSM systems.

The most common application of the SMS service is person-to-person messaging, but SMS are also often used to interact with automated systems, such as ordering products and services for mobile phones, or participating in contests. There are some services available on the Internet that allows users to send text messages free of direct charge to the sender.

Advantages of SMS

SMS has several advantages. It is more discreet than a phone conversation, making it the ideal form for communicating when a person does not want his/her conversation to be overheard. It is often less time-consuming to send a text message than to make a phone call or send an e-mail. It also does not require a person to be in front of computer like e-mail and instant messaging (IM) do, although some phones are equipped for mobile e-mail and IM services. It is also a convenient way for deaf and hearing-impaired people to communicate.

SMS is a store-and-forward service, meaning that when a person sends a text message to a friend, the message sent does not go directly to his/her friend's cell phone. The advantage of this method is that the receiver's cell phone does not have to be active or in range for the sender to send a message. The message is stored in the SMSC until the receiver turns his/her cell phone on or moves into range, at which point the message is delivered. The message will remain stored on receiver's SIM card until he deletes it.

In addition to person-to-person messages, SMS also can be used to send a message to a large number of people at a time, either from a list of contacts or to all the users within a particular area. This service is called broadcasting and is used by companies to contact groups of employees or by online services to distribute news and other information to subscribers.

SMS Applications

SMS is effective when used to provide commercial services. Among the most common services offered are newsflashes, sports, travel advertisement and information like flight timings and status, and many more. SMS has the unique advantage of being the only media available to notify users of events, till WAP push gets deployed.

SMS Applications can be built by interfacing them to an SMSC, which is the central component in an SMS network. However there are many SMSCs and each vendor's SMSC supports its own protocol. Standard protocols are not widely used and application complexity increases due to these diverse protocols platforms and environments.

SMS Criticism and Alternatives

Despite their popularity, short messaging services have received some criticism. Here are a few of the disadvantages of SMS:

- Speedy message delivery is not guaranteed. During periods of high traffic, it might be minutes or even hours before a message gets through.
- It's strictly for sending text messages. SMS does not support sending pictures, video or music files.

Alternatives to SMS

Alternative messaging services allow for more elaborate types of messages. With EMS (Enhanced Messaging Service), a person can send formatted text, sound effects, small pictures and icons. MMS (Multimedia Messaging Service) allows a person to send animations, audio and video files in addition to text. If a mobile phone is EMS- or MMS-enabled, these standards can be used just like SMS. However, the cost per message will be higher.

Another alternative to using SMS is using an instant messaging program, such as AOL IM, on the cell phone. This can be in the form of software that's pre-installed on the phone, or a person can use WAP (Wireless Application Protocol) to access the Internet and sign into IM account. WAP is a protocol that offers small, simplified versions of web pages that are easily navigable on mobile phone or PDA. It can be used to send instant messages or actual e-mails from phone.

A common complaint about SMS is its inefficient delivery structure when the message center is backed up, messages take longer to reach their destination. To make message delivery faster, networks are using more new next-generation technologies such as GPRS (General Packet Radio Service).

1.2. Problem Statement

In UTP, quizzes are usually held early in the lecture which is good because it will make sure that students do attend the lectures early. However, there are some students that cannot come to the lectures as early as others, maybe because that student has another class prior to that or maybe his/her class venue is located at a distance from the next class venue. So, this problem needs to be overcome because these students do want to attend the quizzes and class. Another issue that arises is because sometimes announcement made by lecturers about quizzes does not reach the student effectively, some student might have problem accessing the e-learning website and there might be some student that did not attend previous class when the announcement about the quizzes were made. And to makes things worse, the answers from the quizzes are usually written in paper where there might be chances of lecturers misplacing the answer sheets. As a result, some students that do attend and answer the quizzes were left with zero marks.

A few questions arised from this matter which should be taken seriously from the problem statement above:

- i. How can these unfortunate events can be overcome?
- ii. How can we ensure that students were not left behind and eventually lose some coursework marks?
- iii. What can be done to help organize and improve the existing quiz system?

1.3. Objectives of the study

The main objectives of the project are to create a new quizzes system and this new system is expected to:

- i. Able to broadcast quizzes to all student that enrolled the subject
- ii. Able to receive answers that was being submitted by the student.
- iii. Stores the marks obtained from the quizzes and sums up the total coursework marks for each student.

1.4. Scope of study

To make sure that the objectives of the project can be achieved; there is certain technical area that needs to be mastered such as:

- i. Database system – to create database that can store questions/marks and sums up marks.
- ii. Wireless communication – to establish connection between the SMS server and the database.

CHAPTER 2

LITERATURE REVIEW

2. LITERATURE REVIEW

Here are the literature reviews that discussed about the usage of the SMS technologies in daily activities:

The growth and usage of SMS on mobiles worldwide is phenomenal; over 40% of the world's people have an SMS capable phone. Almost a trillion SMS messages were sent in 2006 and the expected revenue from SMS in 2012 is \$67 billion interestingly, even among the 85% of Indian users who are prepaid – with average monthly mobile bills of only \$3 (151R) – users on average sent 21 SMSs per month.

(Source: Portio Research, TRAI Report through Sept 2006).

Teen, College Students Are Most Active Cell Phone Users

College students access more mobile content on their phones while mobile services are unrestricted by the parents of teens. A pair of reports look into each segment; one an independent study from M:Metrics, the second, a survey conducted by Itracks for ACE*Comm.

The M:Metrics report finds employed college students are 42 percent more likely to use mobile email than the typical subscriber. That's 23 percent more likely than full-time workers. Working students download mobile games and personalize content on their phones twice as often as do other users.

"Students who work as well are time-deprived. Highly personalized news and entertainment feeds could be interesting if done correctly," Seamus McAteer, chief product architect and senior analyst at M:Metrics, told ClickZ Stats.

The report says a student's mobile phone bill ranges from \$41 to \$60 per month, but 57.5 percent of students are on family plans and don't pay the bills themselves. Students who don't work may be more conscious of download costs.

"Students without work are almost three times more likely to spend less than \$20 in total on their monthly mobile bill than their counterparts with work," said McAteer,

Parents foot the bill of most teen mobile lines through family plans as well, according to the study commissioned by ACE*Comm. The survey finds most teenagers aren't restricted by their parents when it comes to cell phone or data usage.

Just because kids are in school doesn't mean their phones are turned off. Thirty-eight percent of teens surveyed text-message with friends during school hours. A smaller 30 percent of students say they play video games on their phones while at school. Parents who look at their kid's calls will realize 26 percent of kids speak with people mom and dad wouldn't approve of.

The M:Metrics report is part of a monthly benchmark survey that collects specific device model and carrier subscription information each month from a sample of mobile phone subscribers. The survey looks at usage, then M:Metrics uses the data to statistically balance and project to total national population of mobile phone subscribers.

For the ACE*Comm report, Itracks polled 1,000 teens across North America age 13 to 18 from July 30 to August 9 of this year. The data was released in conjunction of the launch of ACE*Comm's Parent Patrol product to help parents monitor their children's mobile phone usage.

(Enid Burns, the ClickZ Network, Aug 29, 2005)

U.S. Mobile Subscriber Monthly Consumption of Content and Applications, July 2005

Activity	Projected Monthly Reach (000s)	Percentage U.S. Mobile Subscribers (%)	Change From Previous Survey (%)
Sent or received text message	67,542	37.3	0.1
Retrieved news and information via browser	24,325	13.4	6.6
Used personal email	20,359	11.3	2.6
Used photo messaging	18,752	10.4	10.5
Purchased ring tone	17,551	9.7	1.4
Used mobile instant messenger	17,375	9.6	0.1
Used work email	10,461	5.8	8.5
Purchased wallpaper or screensaver	6,955	3.8	5.7
Downloaded mobile game	6,233	3.4	4.7

Source: M:Metrics Inc., 2005

(Source: M:Metrics Inc., 2005)

Dhaka - An economics lecturer in Bangladesh has threatened legal action after he received a short, but not so sweet, cell phone text message informing him that he had been suspended. "The governing body of the college has decided to suspend you. Don't come to the college premises anymore," read the text message sent on Sunday to Gazi Saiful Islam by Khanadakar Mushtaq Ali, principal of Pioneer College in Dhaka.

Ali said he sent the suspension notice by text message because notification by mail would have taken too long. "There are some specific charges against him, which include womanizing. It prompted the authorities to take a tough decision and they wanted me to convey the decision very quickly," Ali said.

Islam, however, said the notification was not proper and that he was considering taking legal action against the college. "There are some norms and procedures to sack an employee. You cannot use SMSs to convey a very serious decision to a person," he said.

(Sapa-AFP, September 13 2005 at 11:40AM)

SMS is Rooted in Social Context

We have in study part I seen that where IM communication supports many different relations and increase users collaboration efficiency, SMS communication actually changes users social behavior. Because of the age groups of our participants, almost all had been young adults without mobile phones and were able to compare their life style than and now and several of them pointed to the way the coordination of arrangements had changed since the arrival of the mobile phone. Only one female from study part II was opposed to the common habit that all arrangements were now planned ad hoc and very loosely. But she felt the need to conform, since her friends made plans this way.

The use of SMS is deeply rooted in the social context of the users and their change of lifestyle indicates that the impact is mainly socially based. Another study of SMS use, or 'text messaging' as it is referred to in the UK, also concludes that the medium has altered teenagers' coordination behavior and communication habits. It is here argued that social context is the basis of the adoption of such resent communication medium, which is also true for our age group. One distinction though is that our participants use it for practicalities as well as work related issues on top of upholding social relations.

SMS is in our group used to manage the participants' busy life styles and live up to social obligations. Several of the participants use SMS to inform other people that they are running late for a meeting. Where the teenagers of Ito and Okabe's study mainly use it for social gatherings, it is also appropriate for our participants to send late-SMSs to the secretary and in regards to business meetings. Especially one participant, who is the head of a political organization, finds it more convenient to receive SMSs than actual phone calls, which are more disturbing. However, where studies of teenage use indicate intimate conversations of non-essential information exchange, our older participants have limited conversations of this kind.

A general trend is that women tend to send messages of non-essential character, where the men stick to essential messages of practicalities (or polite answers to the women's comments!) Table 4 shows that the send-to-receive ratio is higher among women than among men; the female participants generally sent more messages than they received where the male participants received more than they sent. The SMS communication has already gained common practices that users adhere to which is also reported by for example Ito and Okabe, who, referring to Japanese text message users says that 'the technosocial situation of the "text chat" is a flexible one but one with clear social expectations and rhythms'. We now look into other issues of SMS as rooted in social structure; first we focus on social presence that SMS and mobile phones provide, and second, we bring out factors of simplicity and availability as incentives to use such low-level communication channel as SMS.

Table 1: Average daily messages sent and received according to gender.

	Male	Female
Sent messages on average per day	4.37	4.61
Received messages on average per day	4.61	4.16

(Louise Barkhuus, IT University Technical Report Series, April 2004)

Text Messaging Outpaces Voice in U.K.

Six tribes of mobile phone users exist in Great Britain. The characteristics of each tribe and the demographics of young adults are defined in "The Mobile Life Report," a study conducted by The Carphone Warehouse in association with the London School of Economics and Lord Philip Gould.

Text messaging outpaces voice for many mobile users, narrowing what the report calls the talk ratio. Among 18-24 year olds, 51 percent send and receive a minimum of six text messages a day; only 15 percent have six or more conversations on their wireless phones. The trend exists but is not as pronounced for mobile users ages 25 to 29.

For voice or text, 26 percent of mobile users age 18 to 24 think their cell phones matter more than their TVs. Eleven percent place TV ahead of mobile phones. Women in the age group rank their mobile phones (32 percent) ahead of TV (11 percent). Men bring the average down, with 19 percent putting mobile service ahead of TV. The study identifies six distinct tribes of mobile phone users:

Generation Mobile: Style-conscious mobile subscribers; singles, students, or first jobbers aged 18 to 24

Phonetics: Single, employed professionals aged 18 to 34 who count their mobile phones as their most important electronic possession

Practical Parents: Cost-conscious, young parents aged 18 to 34 who select phones and subscription options based on price rather than style or function

Smart Connectors: Affluent families and professionals aged 25 to 44 who use their mobile phones to organize their busy work and social lives

Fingers and Thumbs: Married, middle-aged or retired subscribers with children or grandchildren.

Silver Cynics: Affluent, married-with-children subscribers approaching retirement

The report finds an increase in the citizen journalism trend. Half of respondents said they would record evidence, and 47 percent would record a crime in progress. Thirty-six percent said they would use mobiles to snap celebrity or newsworthy events if given the opportunity. What actions mobile shutterbugs would take with the content as far as posting to blogs or sending clips to news organizations wasn't discussed in the findings.

Although 47 percent of working mobile users never or hardly ever turn off their phones, 41 percent say their phones make them too reachable to their employers. Fifty-seven percent think it's unreasonable to bring a mobile phone on vacation for frequent, work-related calls.

Over 16,500 people were surveyed by polling organization YouGov.

(By Enid Burns, the ClickZ Network, Aug 2, 2006)

Using Short Message Service to Encourage Interactivity in the Classroom

Acknowledging that interactivity in the classroom promotes learning, Markett, Arnedillo-Sánchez, Weber and Tangney describe their *PLS TXT UR Thoughts* research project. They define interactivity as a message loop originating from and concluding with the student. Recognising the ubiquity of mobile phones among students and the interactive potential of Short Messaging Service (SMS), they deliberately introduced mobile phones and SMS within the classroom. Students sent SMS in real-time via their personal mobile phones. A lecturer used a modem interfacing with customised software to produce SMS files on her laptop, in order to view the messages onscreen and verbally develop the interactive loop in class. The SMS were also made available online after class, which allowed interactive loops to develop further through threaded comments.

(Robert C. Meurant, Cell Phones in the L2 Classroom: Thumbs up to SMS, 2006)

Meanwhile the newly develop system will replace the existing system and surely it help the staff in providing better service and also better data management.

“For business managers grappling with inflexible reporting tools and users who can't get the information they need without harassing IT and accounting departments, salvation lies in the quick creation and distribution of personalized, comprehensive reports. Authorized users also need secure access to data from any source in your company's suite of business applications, without jumping through endless hoops.”

(Microsoft Dynamics, January 3, 2006)

CHAPTER 3

METHODOLOGY

3. METHODOLOGY

3.1. Development Methodology

For the development of this project, RAD (Rapid Application Development) is used considering the time frame given is quite short. The RAD category that best suits this project would be Iterative Development.

The iterative methodology breaks the overall system into a series of versions that are developed sequentially. The analysis phase identifies the overall concept, and the project team, users and system sponsor then categorize the requirement into a series of versions.

The basic idea behind iterative enhancement is to develop a software system incrementally, allowing developer to take advantage of what was being learned during the development earlier, incremental, deliverable versions of the system. Key steps in the process were to start with a simple implementation of a subset of the software requirements and iteratively enhance the evolving sequence of versions until the full system is implemented. At each iteration phase, design modifications are made and new functional capabilities are added. (As show in Figure 1)

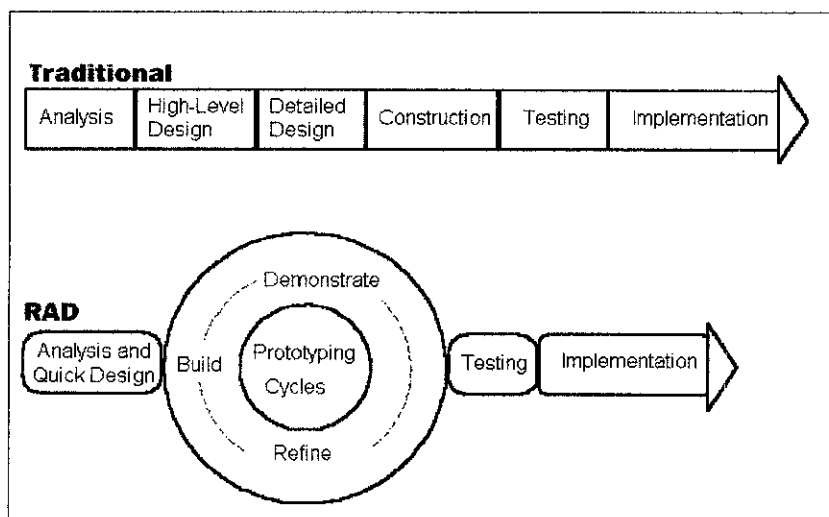


Figure 1: Traditional way versus Rapid Application Development methodology

Planning

In the planning stage, brainstorming about this project was done. The main objective of the system was outlined and how the system should be presented was determined at this stage. Once the system's objectives are clearly determined, the project plan is initiated. Project plan describes how the system will be developed and the list of tasks should be executed throughout the system development life cycle. The planning of this project is to be outline very carefully as it will determine whether the product will be able to be deliver at the end of the time frame given.

Analysis

For the analysis phase, research was done to find out more about the case being studied which is the user access to a certain application or system. Some researches were done in determining the feasibility of using Visual Basic.Net or ASP.Net latest version and Oracle or Microsoft SQL server to develop the proposed system. During this stage, problem statements of the current solution are collected to ensure the proposed system shall be able to overcome the limitation. All possible findings concerning the project are carefully reviewed to ensure the best solution is proposed.

Design

Design phase is also considered as one of the most challenging part in Software Development Life Cycle phase. In this phase, the design of the system must be carefully developed. This is to ensure that user's interactivity with the systems meet user's expectation. Every feature included will be reviewed and the functionality enhancement will be made during this phase.

Development and Implementation

This is the phase where the installation of proposed system takes place. After the installation, the prototype of the proposed system is constructed. The system is built and later tested to ensure it performs in conformance with the system objectives. For this system, test will be focusing more on the functionality assessment of the developed system. The random testing which involve small group of test user will be conducted to validate the functionality of the system and it is important to ensure the system developed is free from the bug or errors.

3.2. System Hardware and Software

In order to implement this system, the study will focus on how to integrate the hardware and software for this project. Based on current research, the software and hardware that will be going to use are;

- 1) Ozeki Message Server – as a SMS Center that will broadcast the quizzes and receive answers sent by the students.
- 2) Microsoft Excel – for temporary data storage.
- 3) MySQL – for database that will store coursework marks.

CHAPTER 4

RESULT AND DISCUSSION

4. RESULT AND DISCUSSIONS

4.1. User Interface Design

In designing the user interface, there are few principles that have been taken into consideration. The principles are as follow:-

- All functions available should be seen clearly
- The behaviour of the system should be consistent
- There should be a clear way of getting things done.
- Clearly differentiate the priority of each function.
- The user interface should be easy to understand.

Figure 2 below shows the Ozeki Message Server's interface since its does follow all the principle stated above. Meanwhile, on the other end, the students will experienced basic mobile phone messaging interface.

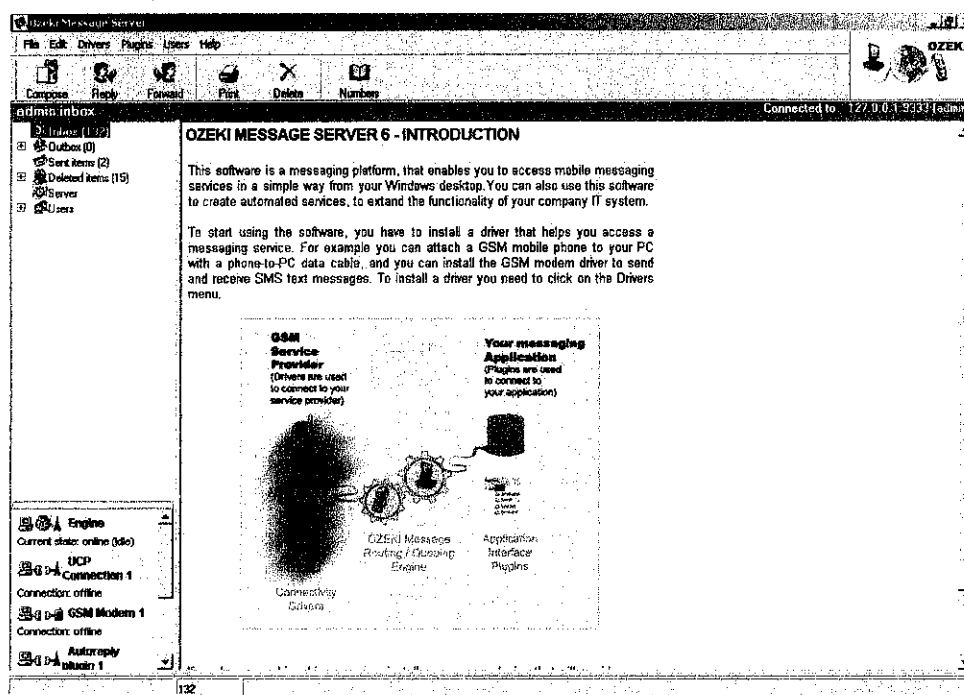


Figure 2: System Interface

4.2. System Architectural Design

In this system, everything is stored in the server and clients will make query to the server for information. Advantages of this client-server model are:

- Centralized database system – All data is kept in a place so that any client that access to the data will get same result. Even when updating, the process will directly update the real data. Compare to distributed architecture, data kept in another place will not update synchronously with all client.
- Easily distributed – The same data can be easily accessible by all clients. User don't have to think either the data is the latest or not because it only has one source.
- Better security control – Admin just have to secure the server and its connection with clients. In addition, admin don't have to think about any other possibility of data insecurity because once the data in the server is secure, there is no possible threat. Even client security is compromised, the data in the server still safe.
- High availability of the data – Server is very stable. User can access the server from anywhere. All data is reachable as long the server is online.

The disadvantage of this architecture is the possibility that data congestion might occur when a lot of transactions are being done at the same time. However, it will never be a problem for this system because only small amount of data will be transfer at one time.

4.3. Features

This system will incorporate features that are suitable for message broadcasting, data storing and data checking. All features that will be incorporated are summarized below.

4.3.1. User Login

For the first time when user using this system, they will be required to log in as an administrator to allow the user to have full access to the application. (As shown in Figure 3) As a security feature, this screen will prompt every time the application is executed.

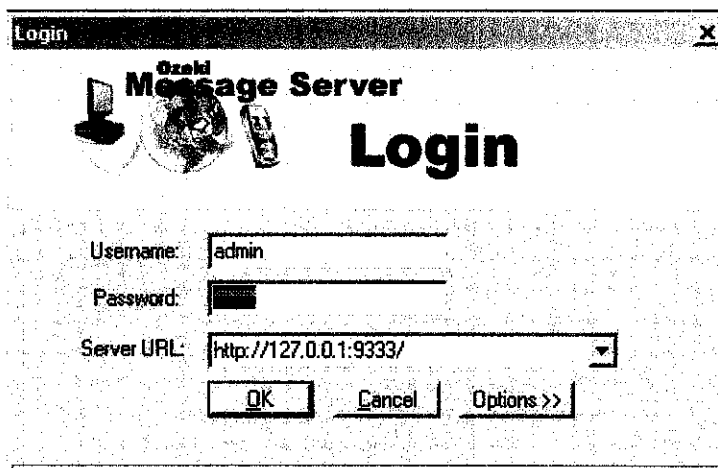


Figure 3: User Login

4.3.2. Drivers

Figure 4 below shows the options that allow users to change setting and also install new drivers for the application. These drivers are important because it offers wide range of medium to connect the mobile phone and the server.

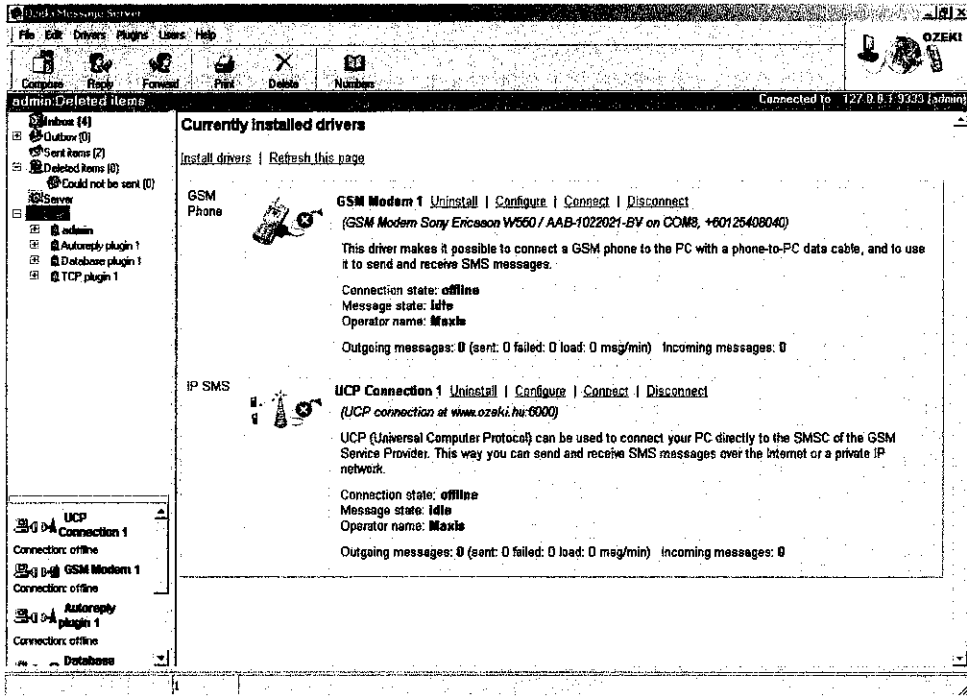


Figure 4: Drivers Available

4.3.3. Plug-in

Figure 5 below shows the options that allow the user to install the plug-ins for the application. This plug-ins offers optional service such as database plug-in, auto-reply plug-in and TCP plug-in where only advanced user will use it. In this case, the database plug-in needs to be installed and configured properly so that connection between the message server and the database can be establish.

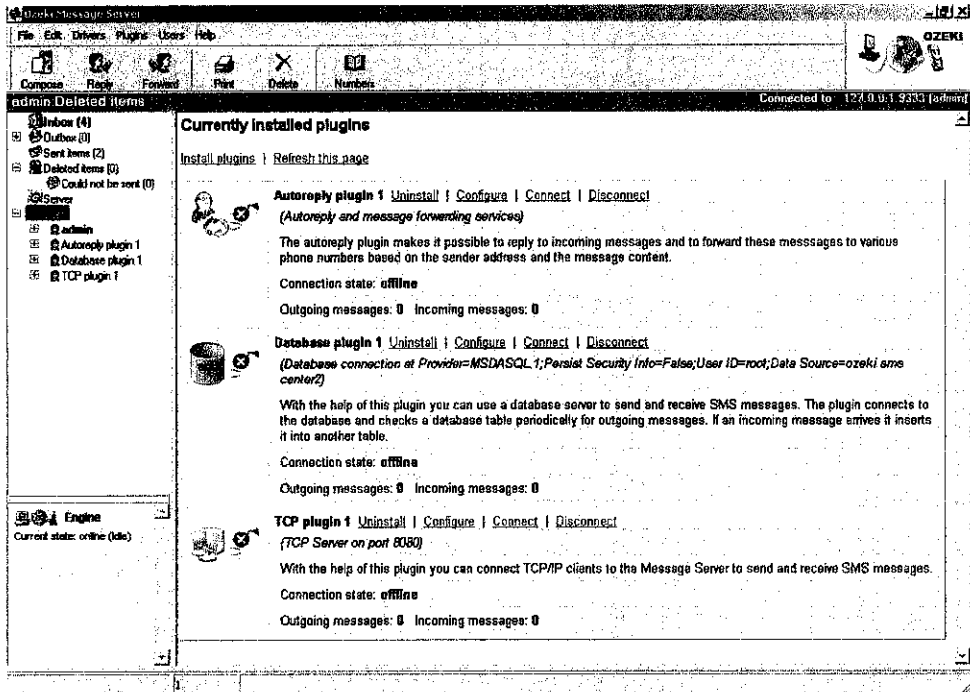


Figure 5: Plug-ins Available

4.3.4. Composing and Broadcasting Messages

Figure 6 below shows a form that allows the user to compose and sends out message. In this form the user needs to enter the recipient phone number and the messages text.

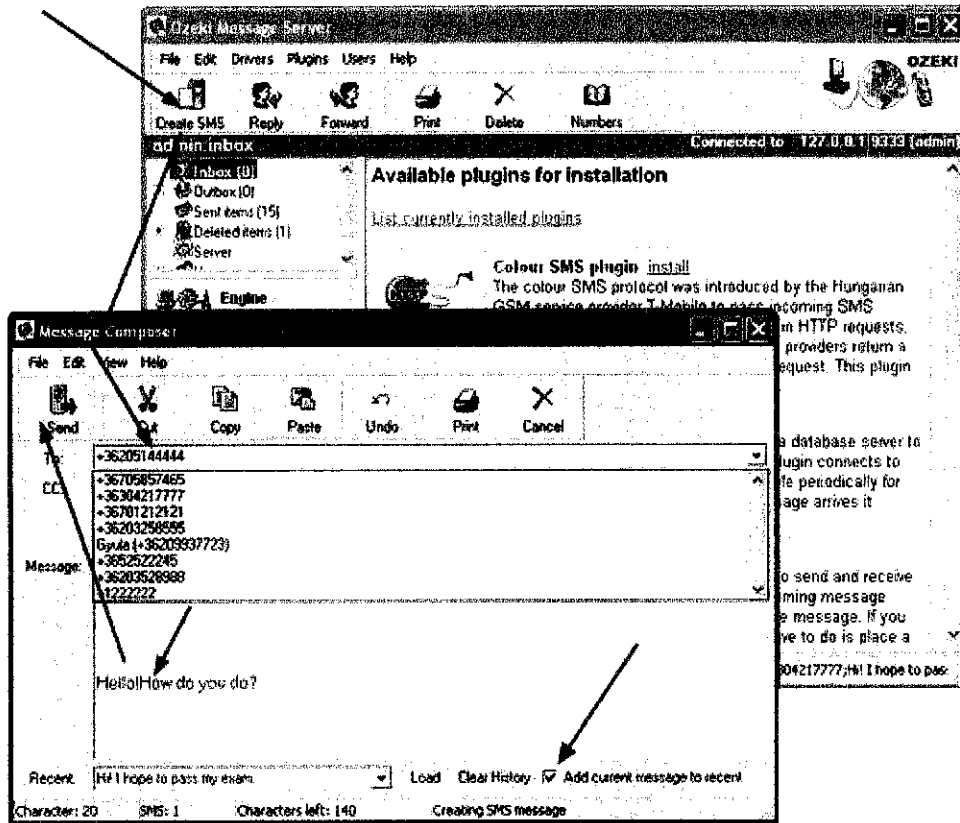


Figure 6: Composing and Broadcasting Message

4.3.5. Message Management

The message server allows the user to save the entire incoming message into the server storage and the messages stored will be inserted into Microsoft Excel table automatically. (As shown in Figure 7)

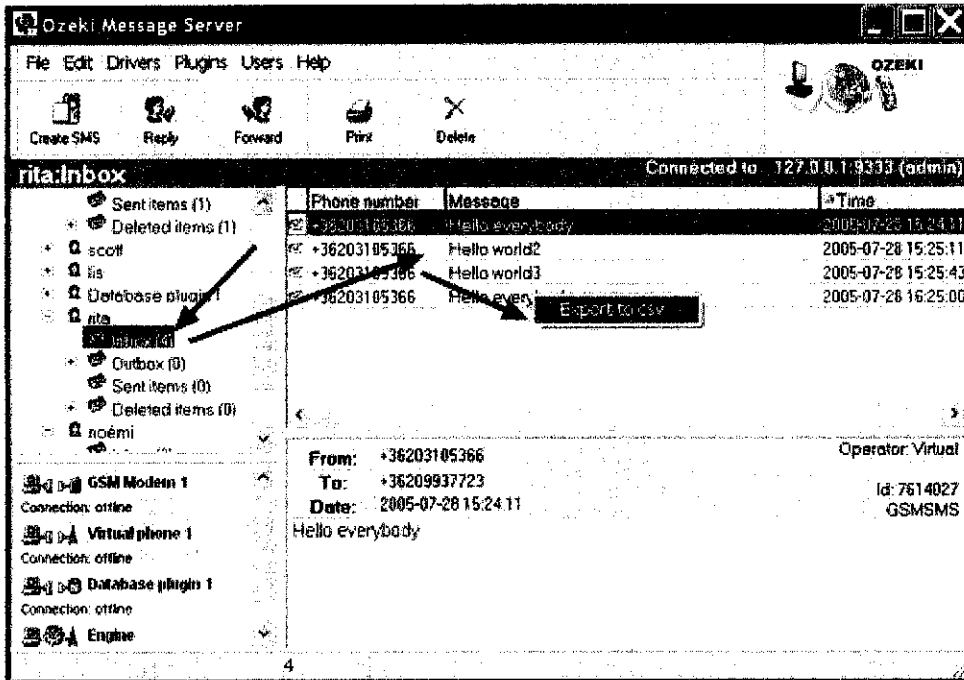


Figure 7: Message Management

4.3.6. Database

One of the strongest features of the message server is that it makes it possible to pass the incoming messages to other applications. These applications can send reply messages or they can send outgoing message any other time. It allows a person to send and receive SMS messages using a database server with the help of SQL queries. (As shown in figure 8)

In order to use this option, a database server (such as Oracle, Access, MySQL, MS SQL, Postgres, Sybes, etc) in needed, and there should be two database tables created: ozekimessageout and ozekimessagein. One of these will be used for sending and the other for receiving SMS messages.

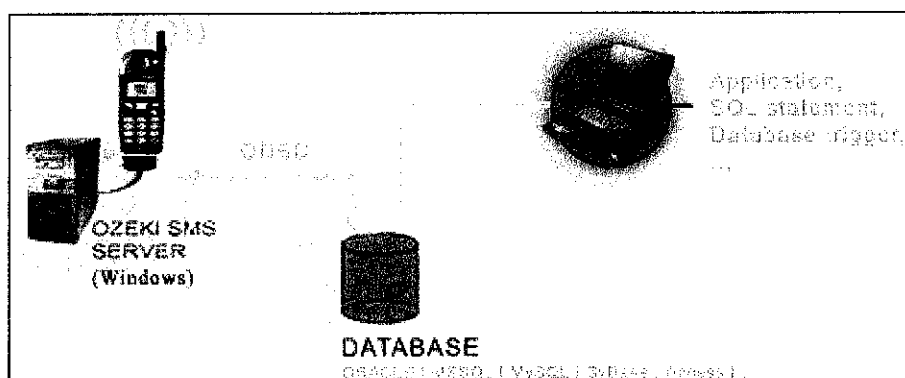


Figure 8: Sending Message Using Database

Figure 9 below shows the log-in screen that will prompt out when the user wants to configure or have access to the main database. Thus, prevent from any unauthorized person to have direct access to the system's database.

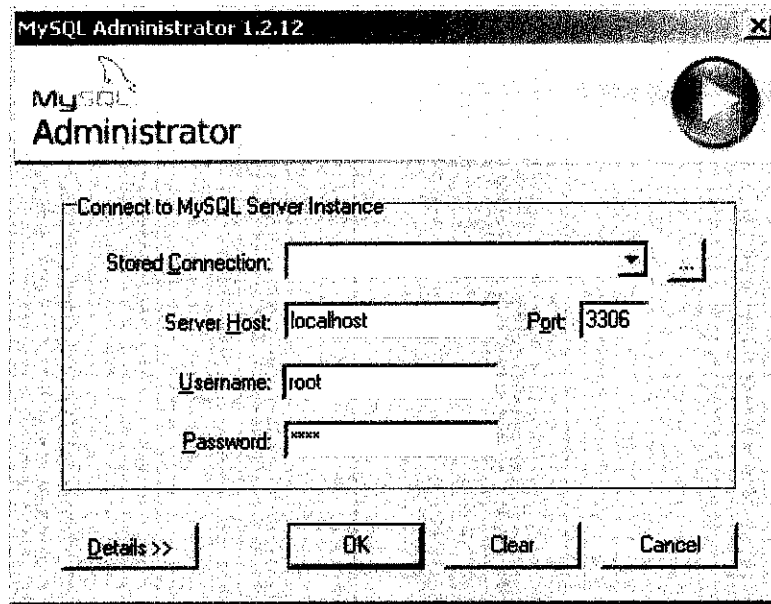


Figure 9: Database Login

Once the user is authorized, he/she will have full access to the database. Figure 10 below shows how many database available and also how many table are there in each database.

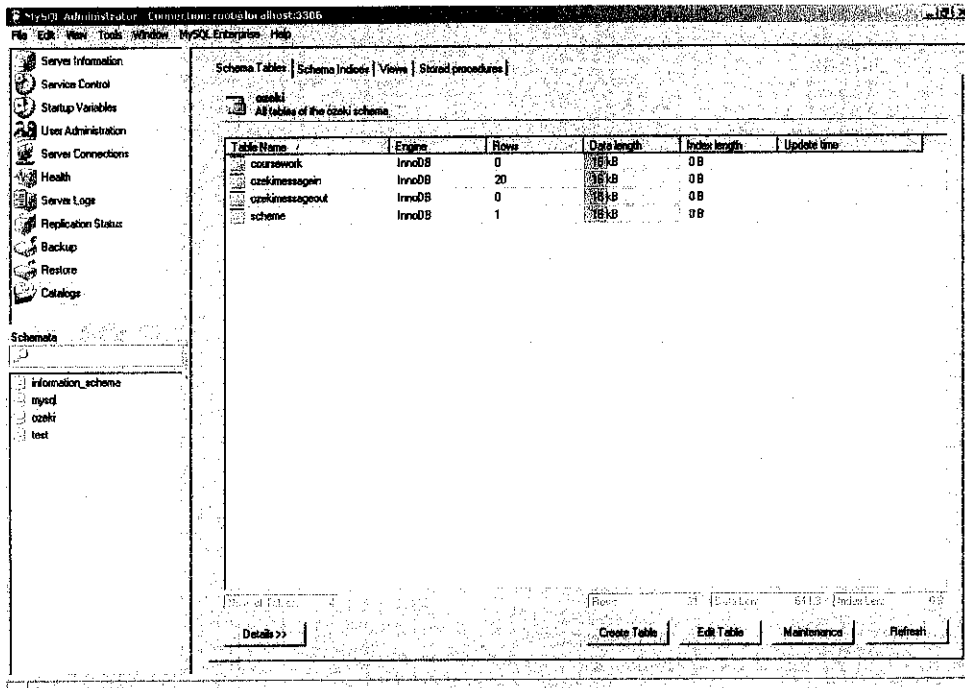


Figure 10: Database Interface

Figure 11 and 12 below show the contents of the table ozekimessagein and table ozekimessageout.

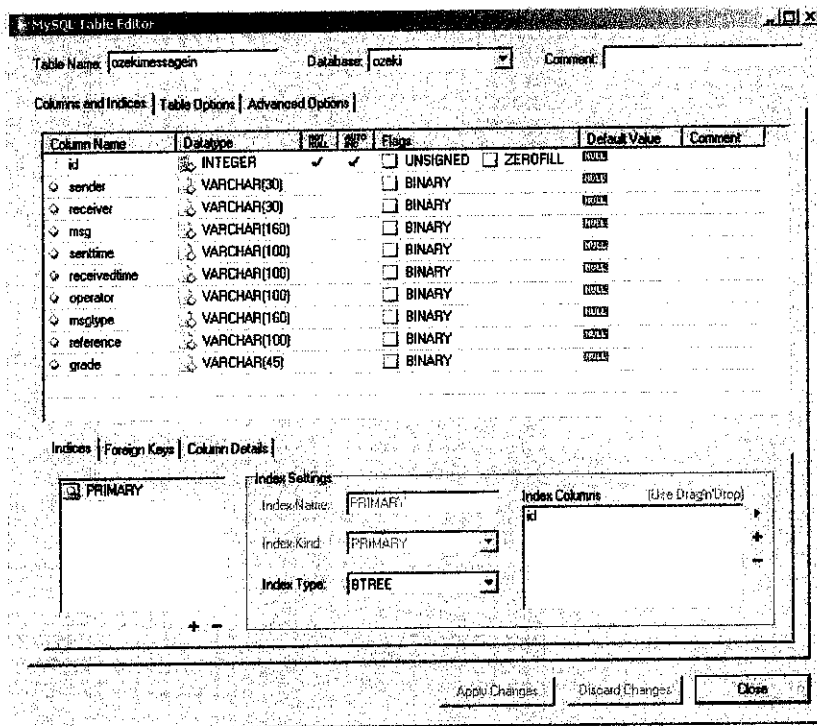


Figure 11: Ozekimessagein Table in the Database

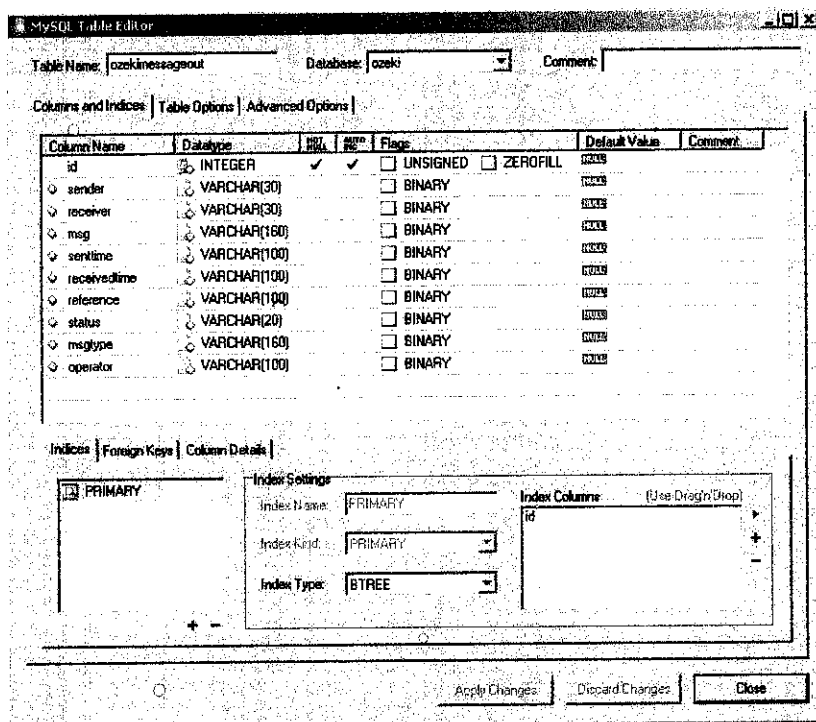


Figure 12: Ozekimessageout Table in the Database

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5. CONCLUSION AND RECOMMENDATION

Most problems that occurred in the current quizzing system can be overcome with the use of current technologies available in the market. With the help of a computerized system, the quizzing system will be more efficient than before.

This system is meant to help busy lecturers to be more organized and allow them to manage their quizzing system effectively. The introduction of Short Messaging Service (SMS) to replace the existing method is because of its advantages and flexibility over papers.

The system can broadcast, receive and store messages, check and grade answers and also sum up the coursework of all students. With the help of this system, the current quizzing system will be more efficient and organized.

In the future, this system can be improved with more features and a better architecture and code style.

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APPENDICES

Appendix 1-1 – How SMS works

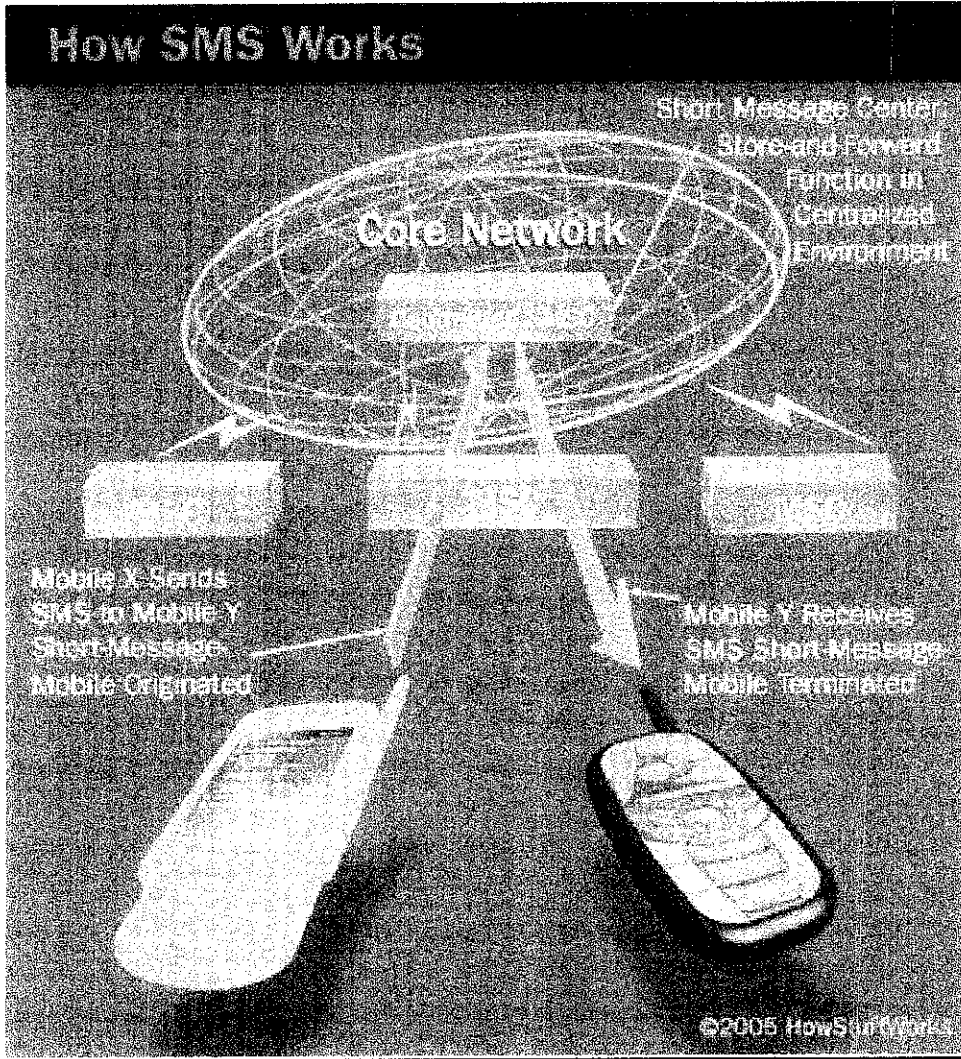


Figure 13: How SMS works

Appendix 1-2 – System Architecture

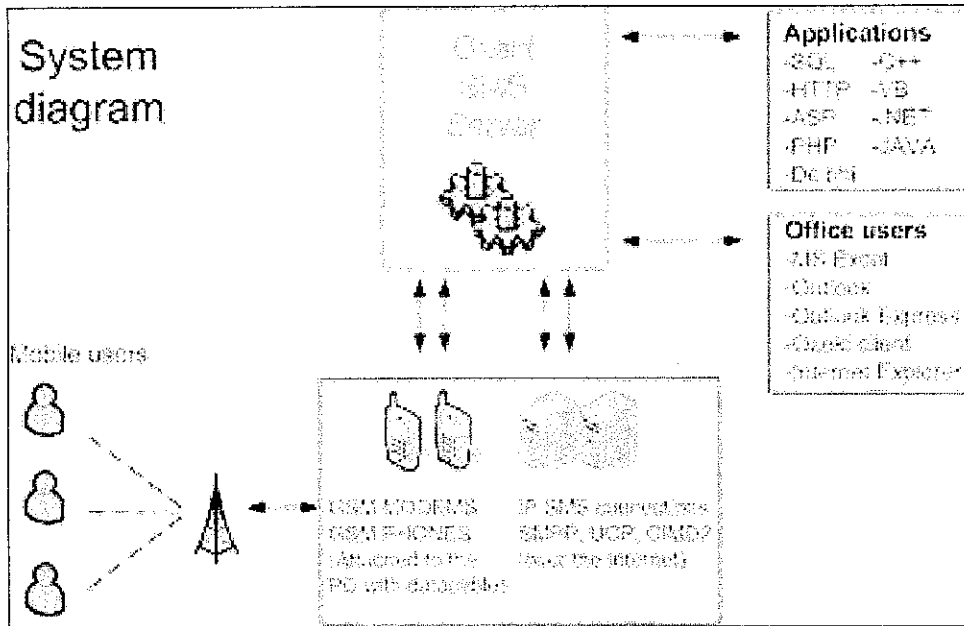


Figure 14: System Architecture

Appendix 1-3 – Questionnaires

During the research period, a questionnaire was distributed out to the students in Universiti Teknologi Petronas via their bulletin board and these are the questions that were asked.

- How many of you have mobile phone?
- How often do you miss quizzes?
- If yes, why did you miss it?
- How critical are the quizzes effecting your grade?
 - (Please rate 1 for not important, 5 for very important)
- If you can answer your quizzes anywhere you like, do you feel like it will ease your life?
- In which method do you choose to take your quizzes?
 - During lecture
 - SMS/Internet

Here are the statistics that was build based on the survey conducted.

- 90% of them do misses quizzes frequently
- 90% of them do misses quizzes because they came late to class or did not know about the quizzes.
- 80% of them agree that these quizzes are important.
- 90% of them agreed that it will ease up their life if they were allowed to take their quizzes anywhere they feel comfortable.
- Only 10% of them actually wanted to take his/her quizzes during lecture.