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CYBER CAFE MANAGEMENT SYSTEM

MOHD KHAZRO'IE BIN JAAFAR

A report submitted in partial fulfilment
of the requirements for the award
of the degree of
Bachelor of Computer Science (Computer System & Network)

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APRIL 2010

SUPERVISOR'S DECLARATION

"I/We* hereby declare that I/we* have read this thesis and in my/our* opinion this thesis is sufficient in terms of scope and quality for the award of the degree of   Bachelor of Computer Science (Computer System & Network)."

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DECLARATION

I declare that this thesis entitled *"CYBER CAFÉ MANAGEMENT SYSTEM"* is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature   : _____

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Date   : <u>19 April 2010</u>

DEDICATION

Special dedication to my family members especially to my parent (Mr.Jaafar bin Md said & Mdm. Noor Saonah bte Dawam) who always give me encouragement in my life, my study and to finish my undergraduate project.

To my supervisor & Academic Advisor Dr. Noraziah bte Ahmad
To all my beloved special friends,
To all FSKKP's staffs and lecturers
To all my classmates

And all my friends out there thank you for your supporting and teaching. Thank you for everything that you gave during my studies and the knowledge that we shared.

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ABSTRACT

Cyber Cafe Management System is software for operating Internet Cafe, Cyber Cafe, Game Center, Gaming Cafe and PC rental Cafe shop .It has been designed for use in an Internet coffee shop, cyber cafe management, accounting, billing, although it can be used for intranet PC controlling. Cyber Cafe Management System is a real-time way to manage the client machines via monitoring and locking in order to process PC rentals which includes the ability to fully control and charge for printing. This thesis consists of 6 chapters.

Chapter 1 will discuss about the Introduction to the System. These first chapters briefly explain about the objective of the system, problem statement and project scopes. Chapter 2 and 3 are about the Literature Review and Methodology of the project. Chapter 2 and 3 will discuss about the methods that will be used, elaborating the sources from the research, and deciding the best tools that will be used to build the system. Chapter 4, Implementation; are about the documentation of the processes during the development of the system, including any modification that been plan and made. While the last, Chapter 5 Result and Discussion and Chapter 6 Conclusion. Chapter 5 will explain about the result that has collected from the analysis and tests of the system along with the constraints and suggestion to enhance the system performance. Conclusion and overall summary of the system, data, methodology, implementation, and the suggestions are in the matter of the discussion on of the chapter 6.

ABSTRACT

Cyber Café Management System adalah sebuah perisisan untuk mengendalikan sesebuah Kafe Internet, Kefe Siber, Pusat Permainan Video, dan Pusat Penyewaan Khidmat PC. Sistem ini adalah direka khas untuk digunakan di Internet Kafe, pengurusan akaun di kafe siber, pembilan, dan juga mampu untuk mengawal mengawal rangkain "Local Area Connection" ke atas computer-computer client yang lain memandangkan system ini adalah sebuah system "Real-time". Thesis ini mengandungi ^ Bahagian.

Bahagian 1 akan membincangkan berkenaan pengenalan kepada system ini. Di sini ia akan menjelaskan serba sedikit berkenaan objektif, penyataan masaalah dan skop kepada pembinaan sistem ini. Bahagian 2 dan Bahagian 3 menerangkan berkenaan Kajian Literasi dan Methadologi pembinaan sistem ini. Di bahagian ini kaedah-kaedah, kajian yang berkaitan dengan system, dan juga alatan dan perisian yang difikirkan rasional untuk pembinaan sistem ini akan dijelaskan. Bahagian 4, Implementasi; adalah berkenaan dokumentasi proses-proses yang dijalankan ketika pembinaan sistem, termasuk perubahan yang di rancang dan juga yang telah di lakukan.Bahagian yang seterusnya adalah Bahagian 5, Keputusan dan Perbincangan; dan Bahagian 6, Kesimpulan;. Bahagian 5 membincangkan hasil keputusan yang telah di peroleh berdasarkan analisa dan ujian-ujian yang telah di jalankan. Disamping itu bahagian ini juga turut mendiskusikan halangan dan cadangan-cadangan tambahan untuk menambah baik lagi status prestasi sistem ini. Konklusi dan rumusan keseluruhan projek, data-data, methodologi, ujian aplikasi, dan juga cadangan-cadangan adalah isu yang dibincangkan di dalam Bahagian 6.

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LIST OF ABBREVIATIONS

TDND	Top-Down Network Design
SDLC	System Development Life Cycle
LAN	Local Area Network
POS	Point of Sales
CL	CYBERLEADER Cafe Software
MC3	MC3 Cyber Café Software
CAFEZEE	CAFEZEE Cyber Café Software
WOL	Wake on LAN
RFB	Remote frame buffer
VNC	Virtual Network Computing

LIST OF APPENDICES

CHAPTER II

LITERATURE REVIEW

2.1 INTRODUCTION

Chapter 2 is the important chapter for any project that will be develops. The purpose of this chapter is to present a selected literature review, which is very important for the research. This chapter also describes and explains on the literature review carried out on the system. Besides that, previous research also will be discussed in this section at least three existing system and methodologies that being used in other research which is related to this system will be explained and compared to highlight the differences.

For the project required section, where all the requirements such as software and hardware as well as the operating system requirement will be listed so that developer can understand all the features that are available in the requirement before proceeding to the proposed project.

2.2   LITERATURE REVIEW

Literature review is aims to review the critical points of current knowledge on a particular topic. Therefore, the purpose of the literature review is to find, read and analyze the literature or any works or studies related to this system and do research on the existing systems. It is important to well understand about all information to be considered and related before develop this system.

Some research have been done to understand the concept and purpose of network management, programming language, protocol language, hardware and networking architecture, and existing system that related to this project.

2.2.1   BRIEF OF SYSTEM BACKGROUND
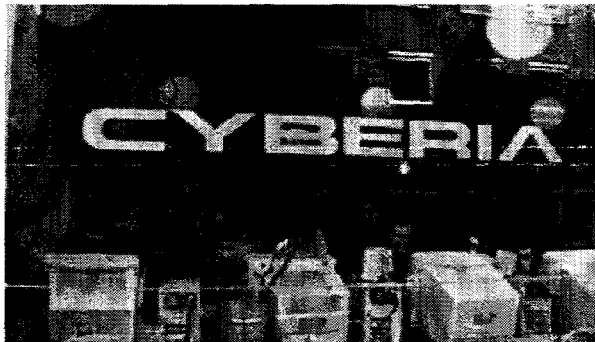
2.1 The first cybercafe Cafe Cyberia, London

Internet cafe history started with the opening of the first cybercafe, Cafe Cyberia, in London (UK) on September 1st, 1994. The founder of the first Internet cafe, Eva Pascoe, was working on her PhD at the time. She got the idea to mixing sipping coffee to surfing the web while sitting at one of coffee shops near the City University of London. Cafe Cyberia started with half a dozen HP computers, connected to the Internet through dial-up modems that were able to transfer data at 9.6 kilobits per second.

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As the first Internet cafe, Cafe Cyberia got tremendous publicity and additional investments into the business from likes of Mick Jagger and Maurice Saatchi.

With the success of Cafe Cyberia, the Internet Cafe business got into a flying start, and there were over 60 similar cafes over the world by the summer of 1995. Ms Pascoe sold her stake in Cafe Cyberia (to three Korean investors) in 1998 and moved to shape another field of online business, online fashion commerce. Nostalgically, the original Cafe Cyberia is still been operating at London's West End, at Whitfield St., behind Goodge St. Station. However, the cafe was renamed "Be the Reds" by the new Korean owners.

2.2.2 INTERNET CAFE TODAY

In the U.S., the burst of the Internet bubble by late 2000 also changed the Internet Cafe industry overnight as the sources for new venture capital money virtually disappeared. Also, the increasing success of portable computers and Wi-Fi Internet access, combined with the fact that more and more people were having Internet access at home, resulted in fewer customers for the Internet cafes. However, as a dynamic industry, many new cybercafés and many of the old ones started to offer a bit more targeted services than just coffee and computers, to bring in new customers. For example, some cybercafés started to offer services primarily for gamers (and still do). Typically, these cafes offer the latest computer games with state of the art computers. The success of broadband network gaming brought the concept of LAN parties to these Internet cafes, as they organize gaming tournaments over broadband LAN connections.

By late 2002, the Internet gaming cybercafés had become a huge success around the world. For example, according to some estimates, there were over 4,000 cybercafés in Taiwan by 2002, most of them focused on providing gaming. In South Korea, the PC Bang (the South Korean name for internet gaming cafes) industry first came into existence in the mid 1990s. Recently, it was estimated that there were over 22,000 PC Bangs (the name of Internet gaming cafes in South Korea) in South Korea at the beginning of 2006. In addition, during January 2006, Intel, the global PC chip

manufacturer, made another milestone into the Internet cafe history by opening a 120 computer PC Bang operation at Nowon-gu, in northern Seoul, South Korea.

However, as many Internet cafes in some countries have evolved into advanced gaming or business centers, the original cybercafé idea (of providing basic Internet access) is still a major growth story in many parts of the world. India, for example, has over 50,000 Internet cafes with over 500,000 customers each month, according to some estimates. One Indian company alone, Sify Limited, which operates the iWay Internet cafe franchises, has over 3,100 cybercafés in 149 Indian cities. One significant historic milestone in Internet cafe history has been the introduction of the Yahoo! Mail Internet Cafe Awards, awarded in September 2004, to celebrate the 10th birthday of cybercafé industry.

2.2.3 INTERNET CAFÉ CHARACTERISTICS

Internet cafes are located world-wide, and many people use them when traveling to access webmail and instant messengers to keep in touch with family and friends. Some of them, especially LAN Gaming Centers, are also used for multiplayer gaming. having several computer stations connected on a LAN. In this case, the computers are specially assembled for gameplay, supporting popular multiplayer games. This is reducing the need of video arcades and arcade games, and many are being closed down or are being merged into Internet cafés. The use of Internet cafes for multiplayer gaming is particularly popular in certain areas of Asia, notably South Korea.

There are also Internet kiosks – Internet access points in public places like public libraries, airport halls, sometimes just for brief use while standing. Many hotels, resorts, and cruise ships offer Internet access for the convenience of their guests; this can take various forms, such as in-room wireless access, or a web browser that uses the in-room television set for its display (usually in this case the hotel provides a wireless keyboard on the assumption that the guest will use it from the bed), or computer(s) that guests can use, either in the lobby or in a business center.

As with telephone service, in the US most mid-price hotels offer Internet access from a computer in the lobby to registered guests without charging an additional fee, while fancier hotels are more likely to charge for the use of a computer in their "business center."

For those traveling by road in North America, many truck stops have Internet kiosks, for which a typical charge is around 25 cents per minute

.The easyInternetcafe chain discontinued its CD burning services because it was held responsible for copyright violations by clients. Internet cafes are a natural evolution of the traditional cafe. Cafes started as places for information exchange, and have always been used as places to read the paper, send postcards home, play traditional or electronic games, chat to friends, find out local information. Cafés have also been in the forefront of promoting new technologies, for example, the car in 1950s California. Internet cafes come in a wide range of styles, reflecting their location, main clientele, and sometimes, the social agenda of the proprietors. In the early days they were important in projecting the image of the Internet as 'cool' phenomena. As internet access is in increasing demand, many pubs, bars and cafes have terminals, so the distinction between the internet cafe and normal café is eroded.

In most developing countries Internet cafes are the main locations for people to access the Internet. In places with censoring regimes such as mainland China or Singapore, Internet cafes are closely controlled. In some places computers are in booths to allow private access to pornography. In some areas of Los Angeles they are controlled because they attract street gangs. While most internet cafes are private businesses many have been set up to help bridge the 'digital divide', providing computer access and training to those without home access. For example, the UK government has supported the setting up of 6000 telecasters.

2.3   PREVIOUS RESEARCH

All this systems are the research subject and will be a guideline to this project. As a result, 3 Computer Network Management systems are selected because of their features and technologies suit with the development of this project. This section will

explain all the features provide on each application and comparison between them. All this information will be use to propose a prototype application and to improve the features of the developed application itself.

2.3.1 CYBERLEADER CAFÉ SOFTWARE

CyberLeader Café Software is an online customer billing for Internet Kiosks. [11] Customers can pre-pay for sessions using any major credit card, which is ideal for Internet kiosks. [11] It is a Windows-like fully customizable interface of client workstation (you can even place your own logo in the center of CL Client). [11] Well-developed Timecodes feature for selling time based tickets with multiple exporting and printing options including exporting into HTML and XML. [11]

It is also very easy to use prepaid sessions, by just start a prepaid session with only two clicks. [11] CyberLeader Café Software is a Comprehensive Point of Sale system which provide full employee control which every employee gets an account with personal user rights and able to remotely update CL Clients all at once. [11]

CYBERLEADER CAFÉ FEATURES

1. Point of Sale System

   Using our easy to use and very flexible POS you can sell any items you offer. POS allows you to keep track of the inventory and can calculate the cost of items that you add to stock.

2. Timing Control

   Know exactly for how long customers use your computers.

3. Pricing

Scheduled Pricing: you can have only one rate per hour or multiple rates per hour throughout a day. You can also specify a minimum or initial charge for a session.

Bulk pricing: use this pricing mode if you want the price to change as time elapses. It allows you to charge more the person who comes in for a short period of time comparing to one who spends more time searching the net.

4. Print Monitoring

Cyberleader can control and charge for printing in postpaid and prepaid modes. You can choose whether to track each one of your printers. Cyberleader can control printing on network, shared and local printers.

5. Remote Client Applications Setup

In CL Server, you can easily specify the list of applications and games available to use by your customers. In addition to program icons, you can also specify website shortcuts to be displayed by CL Clients.

6. Block Access to Drives

you can block access to any drive you want.

7. Connection via LAN and Internet.

8. Easy Interface

CL Server's user interface is completely self-explanatory and user friendly.

CL Client Screenshot
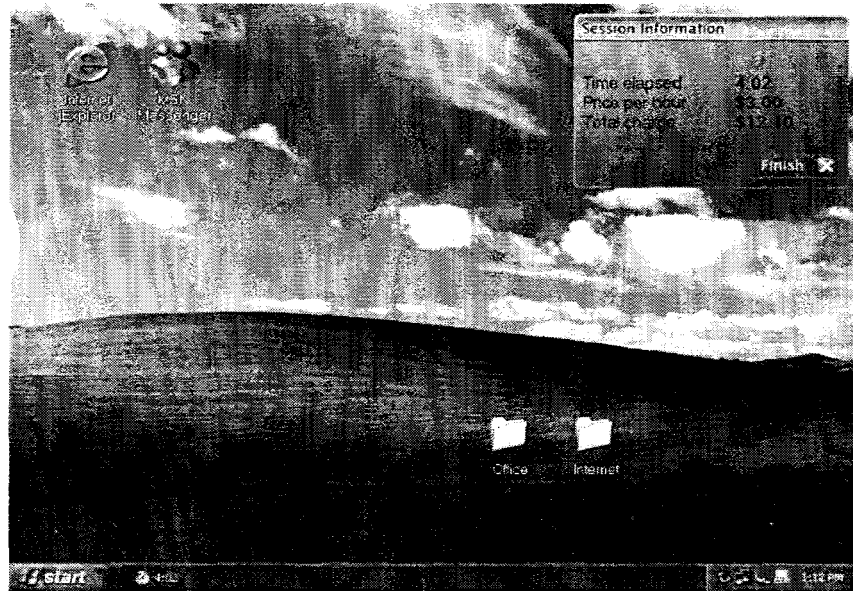
Figure 2.2 Main Screen is very easy for customers to use. It displays the session's timing and cost. Users can click on icons of programs that are specified in CL Server.
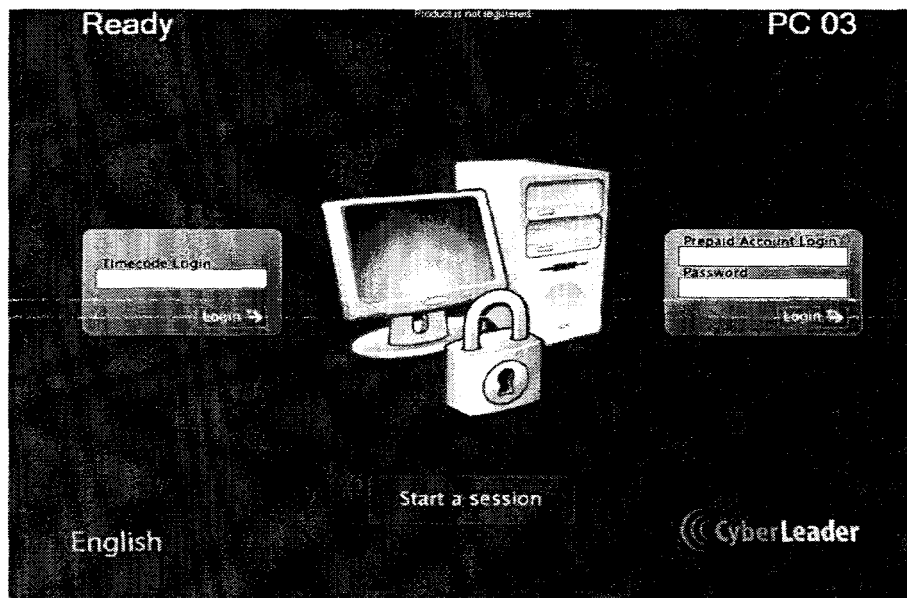
Figure 2.3 Protection Mask is displayed in the locked state of CL Client and prevents access to the computer.

CL Server Screenshot
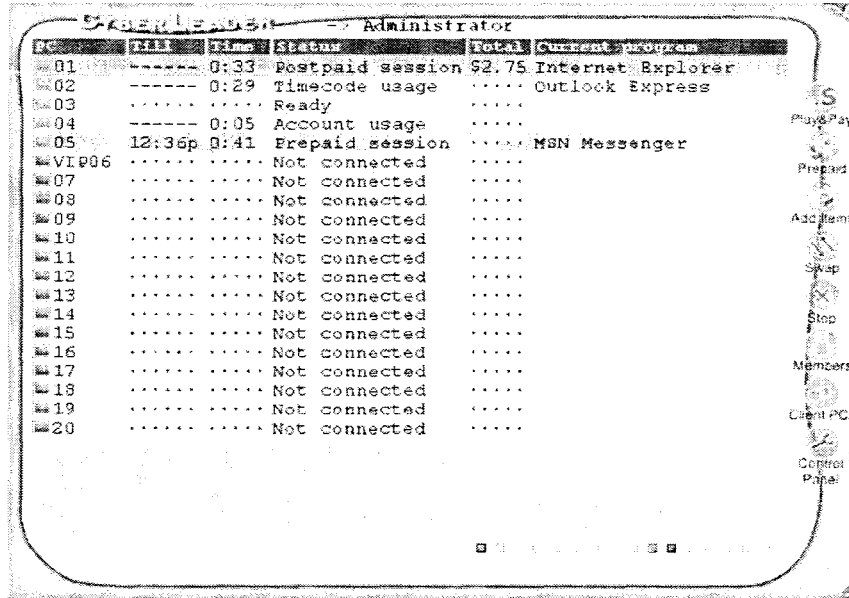
Figure 2.4 Server's Main screen displays information about each one of the computers and their current sessions.
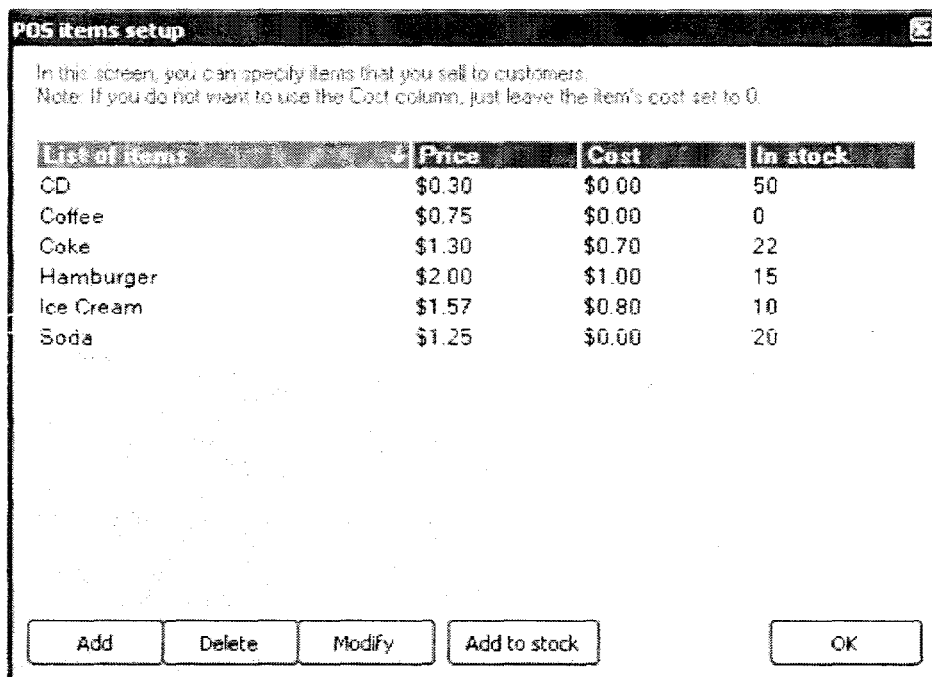
Figure 2.5 Point of Sale setup screen is used to keep track of inventory of each item you sell.

1.3.2   MC3 CYBER CAFE SOFTWARE

Mouse Click has designed and developed cyber cafe software for internet cafe operators. [15] The internet cafe software known as MC3 consists of MC3 Admin and MC3 Client. [15] The internet cafe software will enable the user to record and monitor the transactions and activities in internet cafe. [15]

MC3 cyber cafe software can monitor all client PCs from the administrator PC via the network. [15] MC3 software can also record the activities of internet cafe for user's monitoring purpose. [15]

Though MC3 has been specifically designed for internet cafe operators, it can also be used for home, office and school. MC3 cyber cafe software has been developed and fully tested on Windows Vista. [15] We did not conduct thorough testing on all operating system. [15] Therefore, you are highly advised to download and install the Home Edition before purchasing the MC3 internet cafe system. [15]

MC3 CYBER CAFE SOFTWARE FEATURES

The MC3 internet cafe software can perform the followings:-
1. Record internet or PC usage in the cyber cafe
2. Control client PC from administrator PC via the network
3. Record PC and other internet cafe activities:-
   - Internet and PC usage record
   - Photostat or copier machine usage record
   - Printing record
   - Food and Beverage record
   - Billing and Expense record

MC3 Cyber Cafe Screenshot
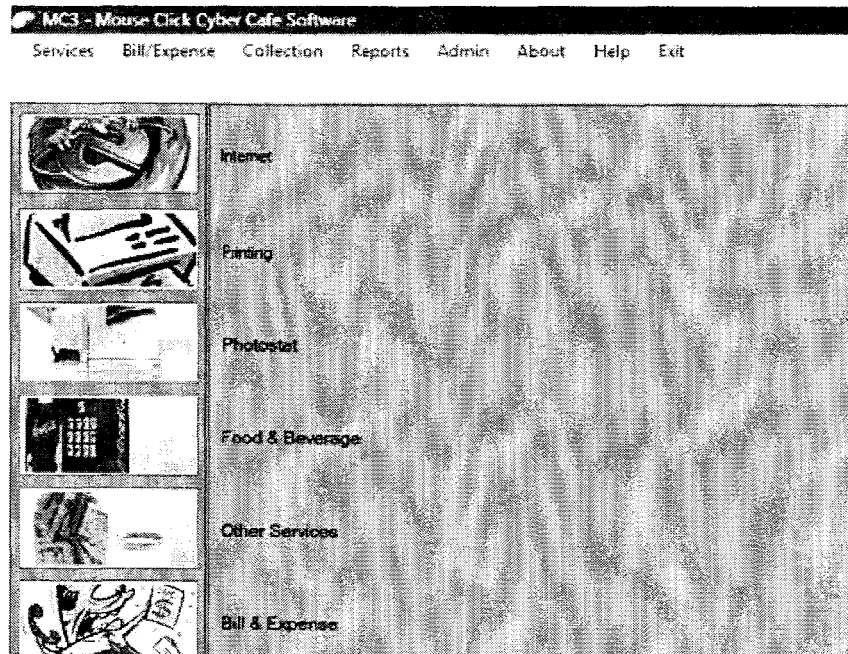
Figure 2.6 The main screen for MC3 Admin software.
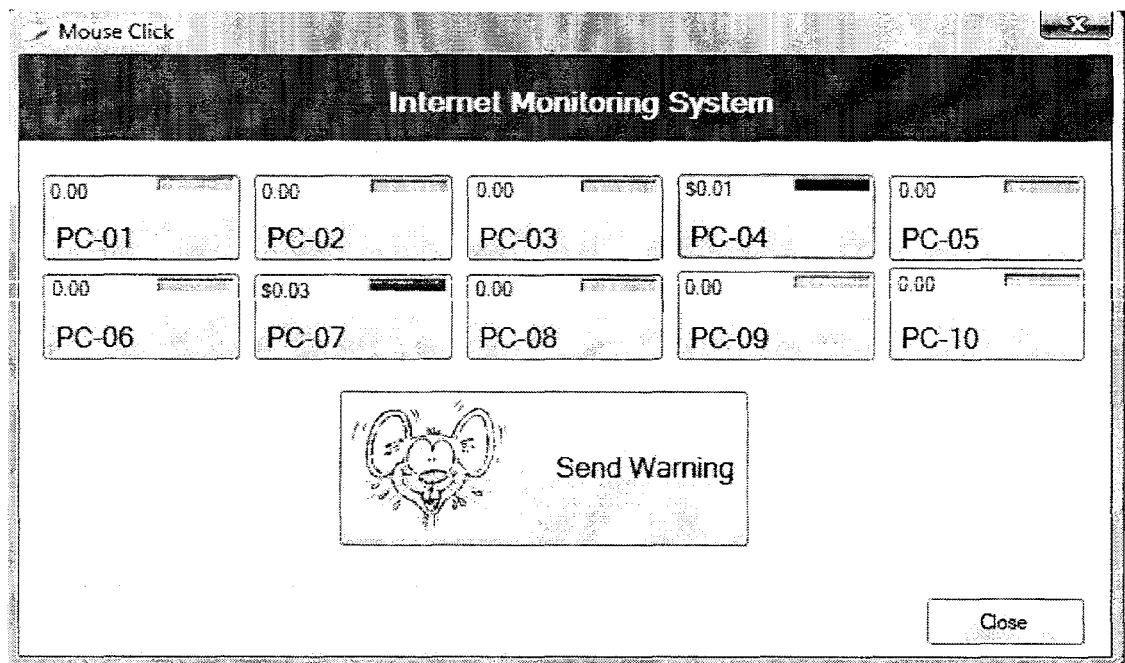
Figure 2.7 Green and Red light indicate the status of PC as 'vacant' and 'active' respectively. The amount charged will be automatically updated every second, based on your charge rate.
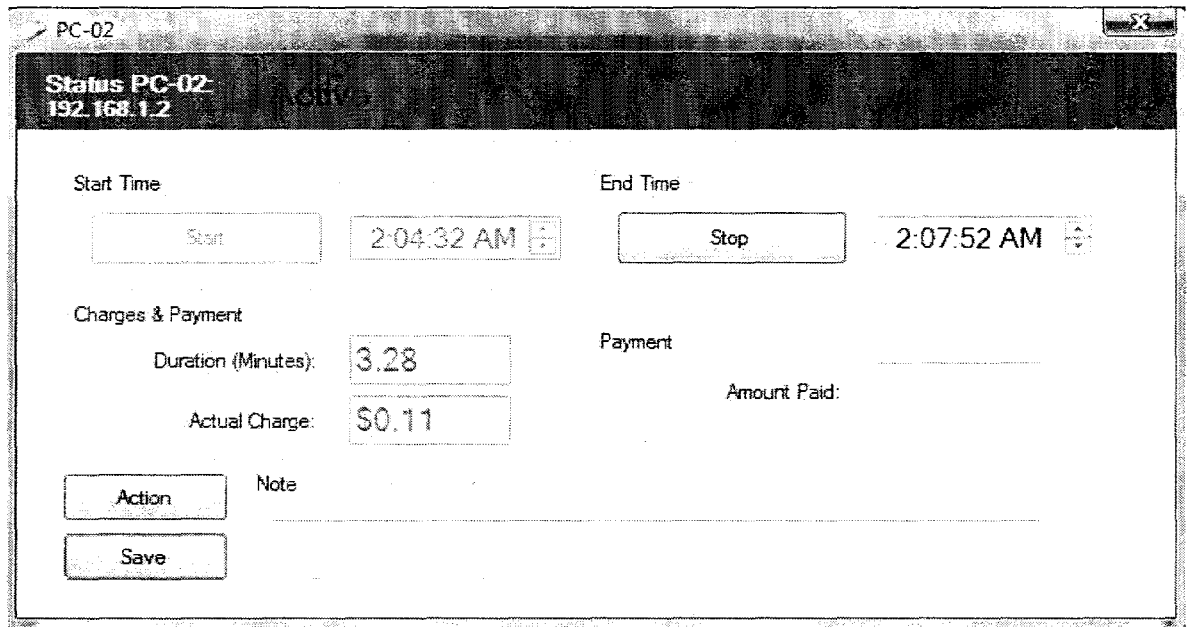
Figure 2.8 Screen will show the administrator the status of each PC such as the duration, charge, amount paid and note.

2.3.3 CAFEZEE INTERNET CAFE SOFTWARE

Cafezee Internet Cafe Software manages the customers and employees of your Internet cafe ensuring secured billings reliably through state of art cyber cafe software besides ensures staff accountability and system security with minimal interference to the cyber cafe customers thus resulting in smooth control. [12] This system remotely start a session, close session, restart and shutdown the client computers from the server. [12] The staff or employee management is made easy by providing various rights and restrictions for each member. [12] This system also helps on managing printing process by automatically charge for the printouts and controls the printouts given by the users, Allow or Cancel a print job. [12]

CAFEZEE INTERNET CAFÉ FEATURES

1. Round-off Amount

   Amount Paid entry to allow rounding of the Total Amount or enter desired amount.

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2. Wake on LAN

Invoke/Switch on the client computers that were earlier connected to the Cafezee server computer from the Cafezee server program using the Wake on LAN feature.

3. Inventory management

Cafezee now allows to maintain stock details; All the purchases or sales made will now affect the quantity of products sold in the cyber cafe, and one can view the updated stock position at any time by using the Inventory report.

4. Control clients from server

All the client computers can be unlocked, locked, restarted, and shutdown from the server.

5. Print-monitoring

Cafezee monitors all the printer queues available on the Cafezee server machine and stores the document names and other details of all the documents printed. This feature has certain limitations.

Cafezee Internet Café Screenshot
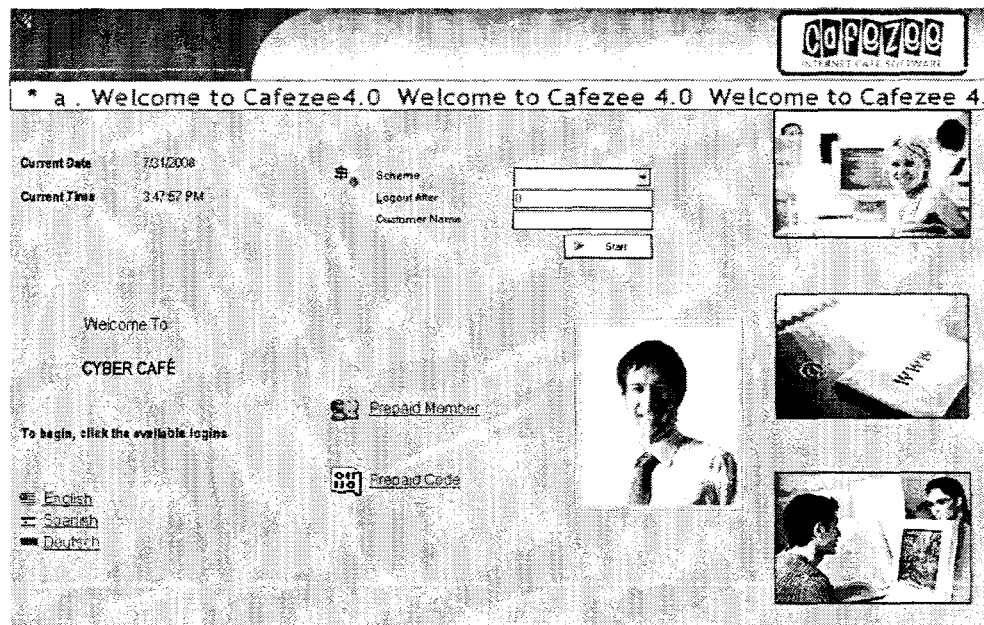
Figure 2.9 Customer Login Screen
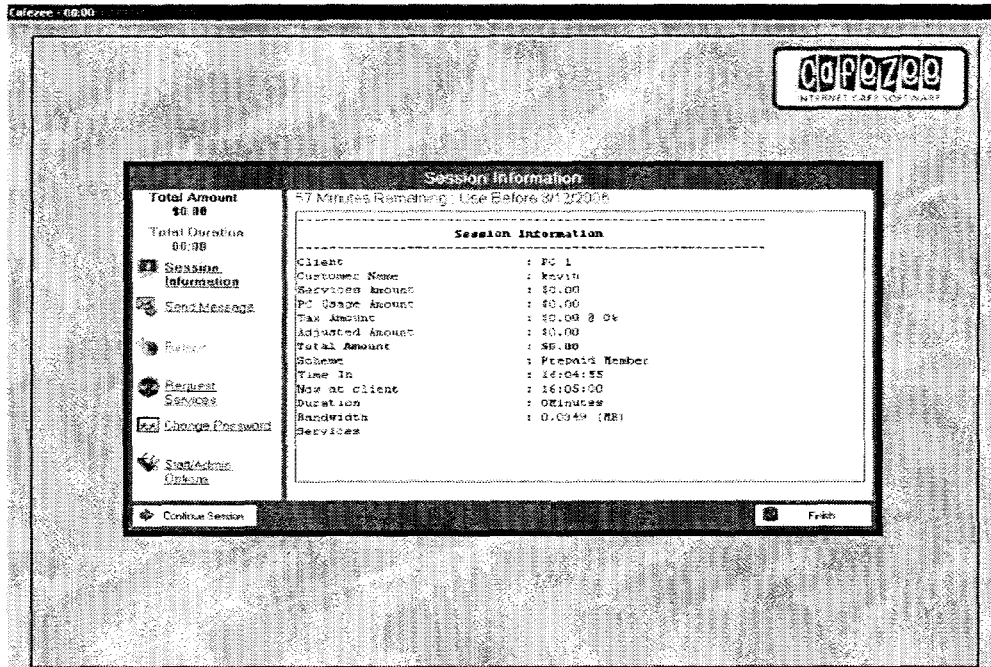
Figure 2.10 Customer Logout Screen
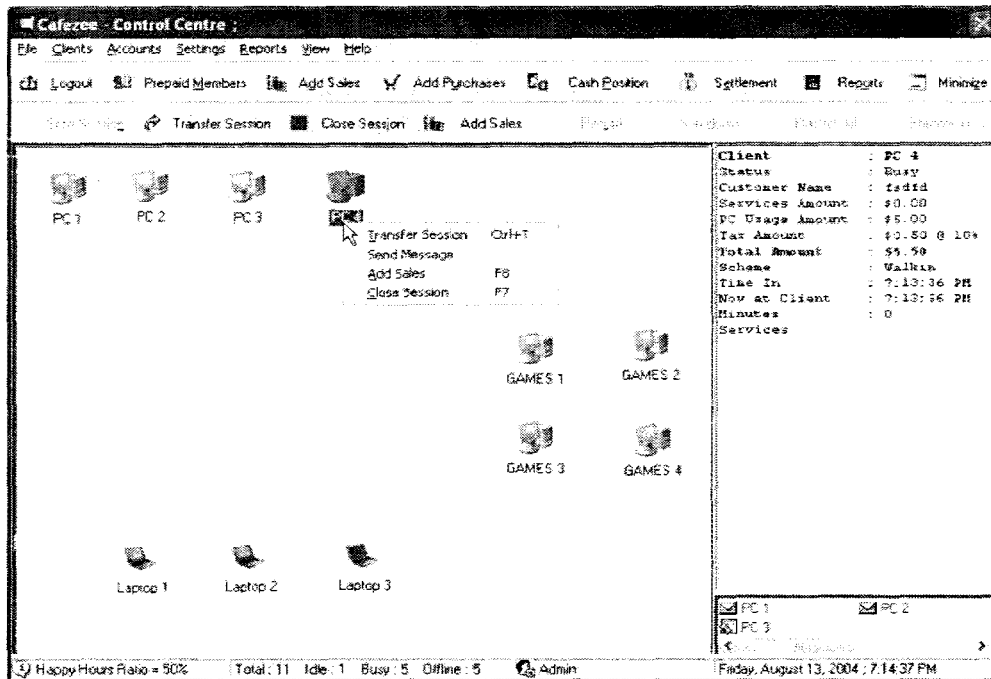
Figure 2.11 Control Centre (Remote control all the clients)

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Figure 2.12 Sales screen

Figure 2.13 Purchase screen

2.3.4 PREVIOUS RESEARCH COMPARISON

Table 2.3 Comparison between CyberLeader Café, MC3 Cyber Café and Cafezee Internet Café

System & Characteristic	CyberLeader Café	MC3 Cyber Cafe	Cafezee Internet Café
Method	LAN (Local Area Network) Client/Server Networking Wake on LAN Virtual Network Computing	LAN (Local Area Network) Client/Server Networking Wake on LAN Virtual Network Computing	LAN (Local Area Network) Client/Server Networking Wake on LAN Virtual Network Computing
Location	Malaysia	Malaysia	Indonesia
Type of Service	- Remote PC	- Remote PC	- Remote PC

	monitoring	monitoring	monitoring
	- Timing, pricing and print monitoring - Wake on LAN - Block Access to Drives	- Timing, pricing and print monitoring - Daily report constructor - Wake on LAN	- Timing, pricing and print monitoring - Wake on LAN - Inventory management
Scripting Language	JAVA	Visual Studio	JAVA
Effective & Functionality	Support XP only	Support XP, Vista	Support XP only
System/Prototype Exist	Exist	Not xist	Exist

2.4   TECHNIQUES AND METHODS APPROACH

Based on the software that was study earlier, a few techniques and methods was used to develop the software. Every project has its own clarification and classification. In this Cyber Cafe Management System, the classification for the project is Information and Communication Technology (ICT) in Network Technology. In the world of computers, networking is the practice of linking two or more computing devices together for the purpose of sharing data. Networks are built with a mix of computer hardware and computer software. Due to that, this system will develop in networking area to assist a user in using the technology.

2.4.1 LAN (LOCAL AREA NETWORK)

A local area network (LAN) supplies networking capability to a group of computers in close proximity to each other such as in an office building, a school, or a home. A LAN is useful for sharing resources like files, printers, games or other applications. A LAN in turn often connects to other LANs, and to the Internet or other WAN. [2]

2.4.2 CLIENT/SERVER NETWORKING

A computer network is referred to as client/server if (at least) one of the computers is used to "serve" other computers referred to as "clients". Besides the computers, other types of devices can be part of the network:
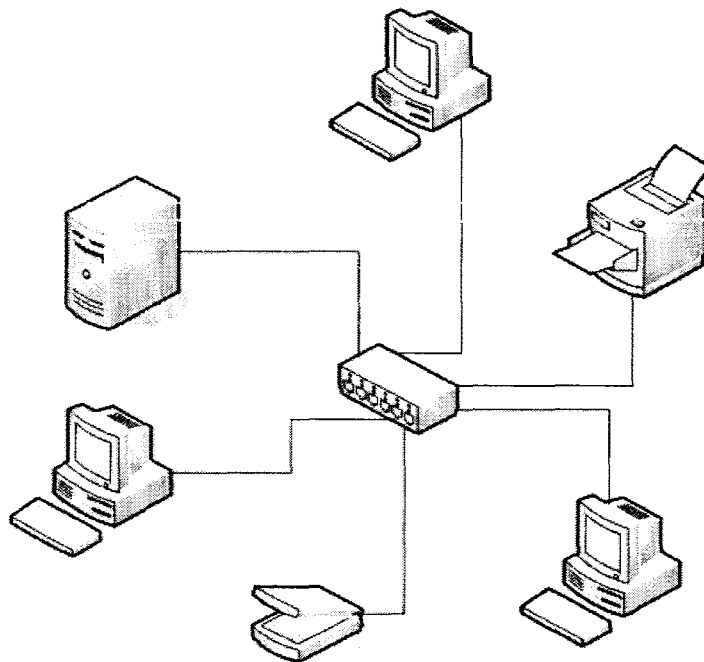
Figure 2.14 Client/Server network and devices

In a client/server environment, each computer still holds (or can still hold) its (or some) resources and files. Other computers can also access the resources stored in a computer, as in a peer-to-peer scenario. [9]One of the particularities of a client/server network is that the files and resources are centralized. [9] This means that a computer, the server, can hold them and other computers can access them. Since the server is always on, the client machines can access the files and resources without caring whether a certain computer is on. [9] Another big advantage of a client/server network is that security is created, managed, and can highly get enforced. To access the network, a person, called a user must provide some credentials, including a username and a password. If the credentials are not valid, the user can be prevented from accessing the network. [10]

The client/server type of network also provides many other advantages such as centralized backup, Intranet capability, Internet monitoring, and many more. [10]

2.4.3 ADMIN APPLICATION

System administrators, owners, managers, or other employees of the shared access site use this application to monitor usage and billing information for all machines on the shared access site's network, to create and print receipts for customers, and to generate billing and usage reports. [9] Shared access site personnel can also use this application to configure and define settings for the system, such as bill rates, additional services, database connection information, and passwords. The Admin application must be installed on at least one computer on the shared access site's network, but can be installed on as many or as few machines as needed. [2] Admin application enables the administrator to take back up of shared access site data which can be restored in case of database failure. It also allows administrator to schedule application for taking automatic backups of the data at regular intervals of time.

2.4.4 USER PC APPLICATION

When a user logs on to a PC, this application records the start time of the user's session, and then periodically reports the status of the machine until the user logs off. [10] As long as the session remains active, the User PC application continues to log status information, even if the links to the database and Admin application are temporarily disconnected. [10] After the user logs off, a history of this session is stored in the database for reporting and billing purposes. [10]

2.4.5 RFB

RFB ("Remote frame buffer") is a simple protocol for remote access to graphical user interfaces. [3] Because it works at the frame buffer level it is applicable to all windowing systems and applications, including X11, Windows and Macintosh. RFB is the protocol used in VNC (Virtual Network Computing). [5] The remote endpoint where the user sits (i.e. the display plus keyboard and/or pointer) is called the RFB client or viewer. [3]

The endpoint where changes to the frame buffer originate (for example the windowing system and applications) is known as the RFB server. [3]
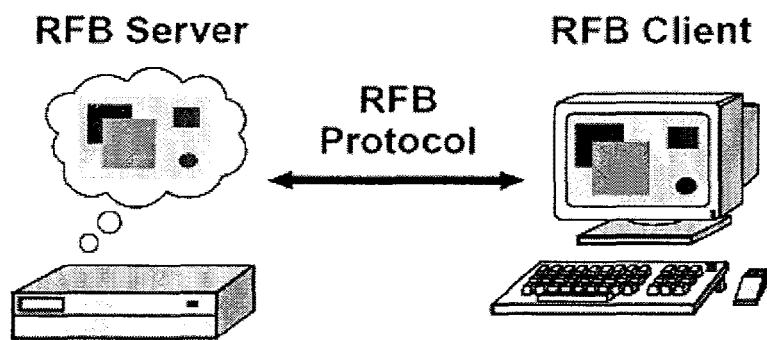
Figure 2.5 RFB

Figure 2.15 RFB (Remote framebuffer)

RFB is truly a "thin client" protocol. The emphasis in the design of the RFB protocol is to make very few requirements of the client. [4] In this way, clients can run on the widest range of hardware, and the task of implementing a client is made as simple as possible. The protocol also makes the client stateless. [6] If a client disconnects from a given server and subsequently reconnects to that same server, the state of the user interface is preserved. [4]

Furthermore, a different client endpoint can be used to connect to the same RFB server. At the new endpoint, the user will see exactly the same graphical user interface as at the original endpoint. [8] In effect, the interface to the user's applications becomes completely mobile. Wherever suitable network connectivity exists, the user can access their own personal applications, and the state of these applications is preserved between accesses from different locations. [4] This provides the user with a familiar, uniform view of the computing infrastructure wherever they go. [4]

Although RFB started as a relatively simple protocol it has been enhanced with additional features (such as file transfers) and more sophisticated compression and security techniques as it has developed. [4]

To maintain seamless cross-compatibility between the many different VNC client and server implementations, the clients and servers negotiate a connection using the best RFB version, and the most appropriate compression and security options, that they can both support. [3]

2.4.6 DISPLAY PROTOCOL

The display side of the protocol is based around a single graphics primitive: "put a rectangle of pixel data at a given x,y position". At first glance this might seem an inefficient way of drawing many user interface components. [6] However, allowing various different encodings for the pixel data gives us a large degree of flexibility in how to trade off various parameters such as network bandwidth, client drawing speed

and server processing speed. A sequence of these rectangles makes a framebuffer update (or simply update). An update represents a change from one valid framebuffer state to another, so in some ways is similar to a frame of video. [6]

The rectangles in an update are usually disjoint but this is not necessarily the case. [8] The update protocol is demand-driven by the client. That is, an update is only sent from the server to the client in response to an explicit request from the client. This gives the protocol an adaptive quality. The slower the client and the network are, the lower the rate of updates becomes. With typical applications, changes to the same area of the frame buffer tend to happen soon after one another. With a slow client and/or network, transient states of the frame buffer can be ignored, resulting in less network traffic and less drawing for the client. [8]

2.4.7 WAKE ON LAN

Wake on LAN (WOL, sometimes WoL) is an Ethernet computer networking standard that allows a computer to be turned on or woken up remotely by a network message sent usually by a simple program executed on another computer on the network. [1]

Wake on LAN (WoL) support is implemented on the motherboard of a computer and the network interface, and as such, is not dependent on the operating system running on the hardware, although the operating system can sometimes control the WoL behaviour. If the network interface is a plug-in card rather than being integrated into

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the motherboard, the card may need to be connected to the motherboard by a cable. Motherboards with an embedded Ethernet controller which supports WoL do not need a cable. [1]

Wake-on-LAN is platform-independent, so any application on any platform that sends Magic Packets can wake up computers running on any platform. It is not restricted to LAN (Local area network) traffic. [13]

The computer to be woken is shut down (Sleeping, Hibernating or Soft Off, i.e. ACPI state G1 or G2), with power reserved for the network card, but not disconnected from its power source. The network card listens for a specific packet containing its MAC address, called the "Magic Packet," broadcast on the broadcast address for that particular subnet (or an entire LAN, though this requires special hardware or configuration). The magic packet is sent on the data link or OSI-2 layer and broadcast to all NICs within the network of the broadcast address; the IP-address (OSI-3 layer) is not used. [1]

When the listening computer receives this packet, the network card checks the packet for the correct information. If the Magic Packet is valid, the network card takes the computer out of hibernation or standby, or starts it up. In order for Wake on LAN to work, parts of the network interface need to stay on. This consumes a standby power, small compared to the computer's normal operating power. If Wake on LAN is not needed, disabling it may reduce power consumption while the computer is switched off but still plugged in. [13]

2.4.8   VIRTUAL NETWORK COMPUTING (VNC)

In computing, Virtual Network Computing (VNC) is a graphical desktop sharing system that uses the RFB protocol to remotely control another computer. [17] It transmits the keyboard and mouse events from one computer to another, relaying the graphical screen updates back in the other direction, over a network. [17]

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VNC is platform-independent – a VNC viewer on one operating system may connect to a VNC server on the same or any other operating system. [14] There are clients and servers for many GUI-based operating systems and for Java. Multiple clients may connect to a VNC server at the same time. [14] Popular uses for this technology include remote technical support and accessing files on one's work computer from one's home computer, or vice versa. [17]

2.4.9 OPERATION OF VNC

In the normal method of operation a viewer connects to a port on the server (default port 5900). [5] Alternatively a browser can connect to the server (default port 5800). [5] And a server can connect to a viewer in "listening mode" on port 5500. [5] One advantage of listening mode is that the server site does not have to configure its firewall to allow access on port 5900 (or 5800); the onus is on the viewer, which is useful if the server site has no computer expertise, while the viewer user would be expected to be more knowledgeable. [5]

The server sends small rectangles of the framebuffer to the client. [17] In its simplest form, the VNC protocol can use a lot of bandwidth, so various methods have been devised to reduce the communication overhead. [17] For example, there are various encodings (methods to determine the most efficient way to transfer these rectangles). [17] The VNC protocol allows the client and server to negotiate which encoding will be used. [17] The simplest encoding, which is supported by all clients and servers, is the raw encoding where pixel data is sent in left-to-right scanline order, and after the original full screen has been transmitted, only transfers rectangles that change. [17] This encoding works very well if only a small portion of the screen changes from one frame to the next (like a mouse pointer moving across a desktop, or text being written at the cursor), but bandwidth demands get very high if a lot of pixels change at the same time, such as when scrolling a window or viewing full-screen video. [14]

2.5   SOFTWARE APPROACH

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This section describe in detail about tool software that will be used along completing this software development. This software will be used and combined it as well to make sure the application becomes user-friendly and easily to access by user.

Table 2.1: Software Requirement to Develop the System

Software	Description
Microsoft Visual Basic 6.0	- To design interface and implement the coding inside the system.
Windows Vista Home Premium	- As an operating system to run the system development tools. -To make sure that the system compatible to both Windows Vista and Windows XP
Windows XP Service Pack 2	- As an operating system to run the system development tools. -To make sure that the system compatible to both Windows Vista and Windows XP
Adobe Photoshop CS2 9.0	- To editing the system picture and designing the interface.
Microsoft Office 2007 - Microsoft Word - Microsoft PowerPoint - Microsoft Project - Microsoft Visio	- It is to make the system documentation such as system presentation, system manual and system planning and scheduling.

2.5.1 VISUAL BASIC 6.0

Like the BASIC programming language, Visual Basic was designed to be easy to learn and use. The language not only allows programmers to create simple GUI applications, but can also develop complex applications. Programming in VB is a combination of visually arranging components or controls on a form, specifying attributes and actions of those components, and writing additional lines of code for more functionality. Since default attributes and actions are defined for the components, a simple program can be created without the programmer having to write many lines of code. Performance problems were experienced by earlier versions, but with faster computers and native code compilation this has become less of an issue.

2.5.2 WINDOWS VISTA HOME PREMIUM

Windows Vista, the newest version of Windows, is not an upgrade to Windows XP but an entirely new operating system. [17] If you use Windows XP, you should find many similarities with Vista and expect to gain greater functionality in the areas of communication, multimedia, and security. [17] A new interface, Windows Aero, uses 3D graphics and other high-end visual effects to enhance your interaction with the operating system. [17]

2.5.3 MICROSOFT WINDOWS XP SERVICE PACK 2

Windows XP is known for its improved stability and efficiency over the 9x versions of Microsoft Windows. [18] It presents a significantly redesigned graphical user interface, a change Microsoft promoted as more user-friendly than previous versions

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of Windows. [18] A new software management facility called Side-by-Side Assembly was introduced to avoid the "DLL hell" that plagued older consumer-oriented 9x versions of Windows. [18]

2.5.4   ADOBE PHOTOSHOP CS2

Adobe Photoshop, or simply Photoshop, is a graphics editing program (also known as a DPD, Desktop Publishing Program) developed and published by Adobe Systems. Photoshop has strong ties with other Adobe software for media editing, animation, and authoring. Files in Photoshop's native format, .PSD, can be exported to and from Adobe Illustrator, Adobe Premiere Pro, After Effects, and Adobe Encore to make professional standard DVDs and provide non-linear editing and special effects services, such as backgrounds, textures, and so on, for television, film, and the Web.

2.5.5   MICROSOFT OFFICE 2007

Microsoft Office 2007 (officially called 2007 Microsoft Office System) is the most recent Windows version of the Microsoft Office System, Microsoft's productivity suite. These are, respectively, the same dates Windows Vista was released to volume licensing and retail customers. Office 2007 contains a number of new features, the most notable of which is the entirely new graphical user interface called the Fluent User Interface (initially referred to as the Ribbon User Interface), replacing the menus and toolbars which have been the cornerstone of Office since its inception with a tabbed toolbar, known as the Ribbon. Office 2007 requires Windows XP with Service Pack 2 or higher, Windows Server 2003 with Service Pack 1 or higher, or Windows Vista. Microsoft Office 200& is a set of desktop productivity programs including applications for word processing, e-mail, and spreadsheets, which integrate with servers, services, and solutions in the Microsoft Office System.

CHAPTER III

METHODOLOGY

Basically, this chapter will explain the whole phase that involve in developing the Cyber Café Management system. The system will enable the administrator to manage the internet café easily and more systematic.

This chapter discusses the concept of methodology used for developing the application. This chapter also brings explanations, information and descriptions about the system development life Cycle and software and hardware specification that are needed for implementation and develop the application.

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3.1 INTRODUCTION

Methodology is a codified set of recommended practices, sometimes accompanied by training materials, formal educational programs, worksheets, and diagramming tool. It documented a set of procedures and guidelines for one or more phases of the software life cycle, such as analysis or design. Many methodologies include a diagramming notation for documenting the results of the procedure and an objective.

3.2 PROJECT METHOD

To develop the application or software various methods can be use. The System Development Life Cycle (SDLC) is the common methodology for system development. SDLC is traditional methodology used to develop, maintain and replace information system. The SDLC methodology tracks the project from the starting of the idea of development, through a possibility study, systems analysis and design, programming, testing, implementation and pre-implementation analysis. This methodology is the best practice for most of the system development.

The SDLC model includes the following phase:

i	Project identification and selection phases
ii	Project initiation and planning phases
iii	Analysis requirement.
iv	System Design.
v	Implementation
vi	System Testing
vii	Maintenance

In the System Development Life Cycle consist 6 phase to ensure the application or software that develop successfully. But there are only six phases being classified of SDLC methodology for this project Cyber Café Management System. There are project identification and selection, project initiation and planning, analysis requirement, system design, implementation and system testing. Maintenance phase will not be covered for the time being.
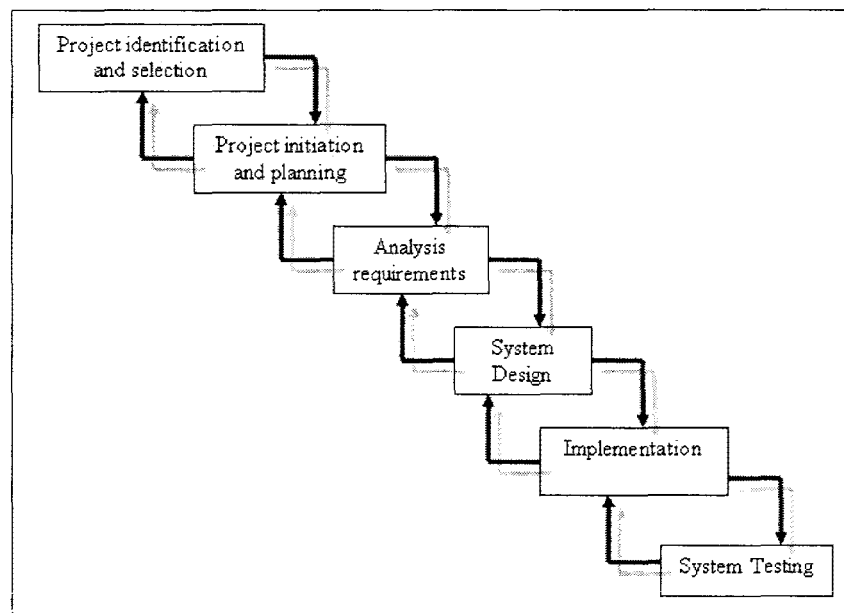
Diagram 3.1 System Development Life Cycles
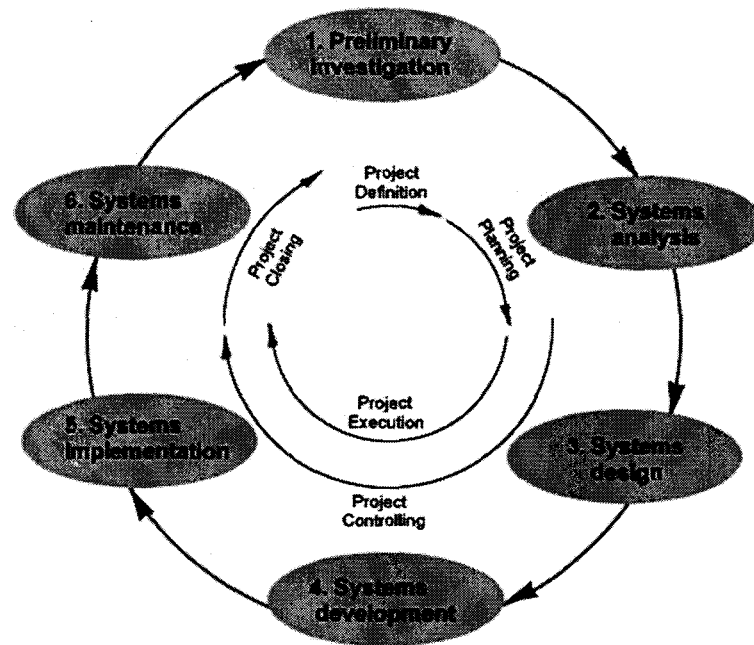
Diagram 3.2 The process in System Development Life Cycle

3.2.1 SYSTEM IDENTIFICATION AND SELECTION

During the system identification and selection problem in the current system is identified. In this phase it need to gather information and to get some idea on how to develop the application .Some research of the manual application is done to identify the problem and detailed out the scope to propose a new system. The main purpose of this phase to identify the existing problem of the current system and to find the needs of the new system in order to overcame to identify problem.

Study had been made at Snoopy Gamers House at Kluang, Johor, to get some overview of the current or real activities of a cyber cafe. From the study, the problem that faced in manages the registration and payment, and monitoring the PC remotely to keep track and detect the internet and LAN connection were identified. The problem comes from the manual operation in the office to manage the registration and maintenance. As a

result, proposed the manual system to change to the computerized system in order to enhance the operation.

3.2.2 PROJECT INITIATION AND PLANNING

This phase is to establish a high-level view the project planning and determine its goals. The planning stage starts from defining the scope till the end of development.

The Gantt chart is use to schedule or plan the activity that will be involved during project development. The planning phase begins when the proposal of this system approved. After that, a schedule has been made to guide along the system development to make sure it can be finished at the time given. All the project planning is being done in Gantt chart using Microsoft Project.

3.2.3 ANALYSIS REQUIREMENTS

In developing new system, it is compulsory to identify the software, hardware or any other resource that will be use in the application. In this phase, it more on the research about of the system and identify the customer's needs from the system. The main objectives of these activities are to make developers to understand their proposed project, ensure it will support the user requirements, and build a solid foundation for the systems design phase .The activity will engage the study about the structure of the system. It also determines the software and hardware requirement that use to develop the system.

3.2.4 SYSTEM DESIGN.

System design is to describe desired features and operations in detail, including hardware design, interface layout, flow of the process and documentation. In this phase

ensure the design is built carefully to make sure the development is base on the user requirement. Design phase is where the technical blueprint of the system is created by designing the technical architecture by choosing amongst the architectural designs of and future needs. In addition, write the test conditions where it works with the end users telecommunications, hardware and software that will best suit the organization's system to develop the test scripts according to the system requirements.

In the phase, the best suit hardware and software is identified in order to develop Cyber Cafe Management System. The design is created based on user requirements and fulfill all the requirements and criteria to provide a user friendly Graphical User Interface (GUI). The database design also being created in this phase.
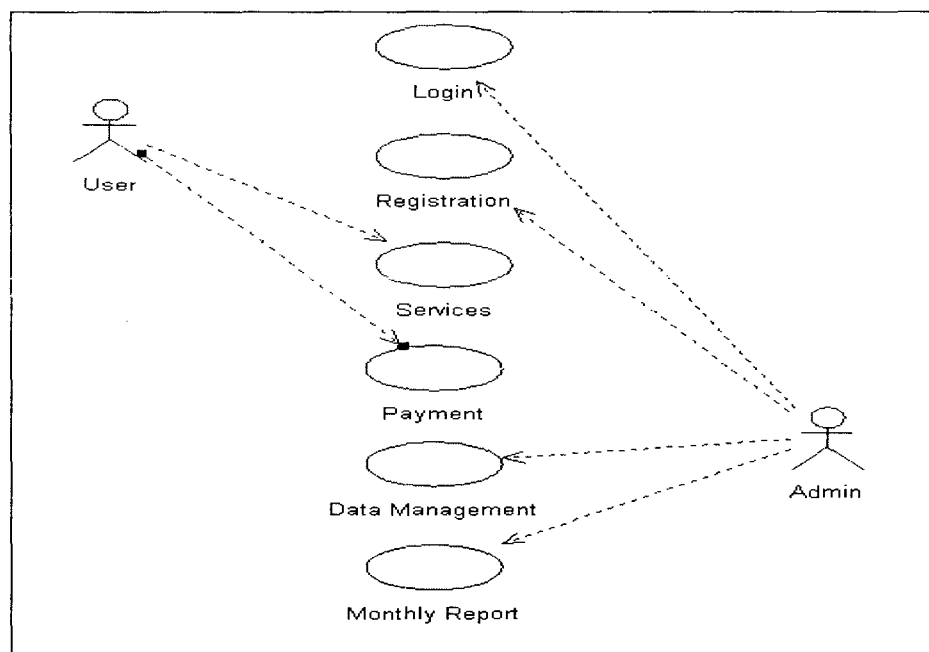
Diagram 3.3   Cyber Café Management System Use Case Diagram
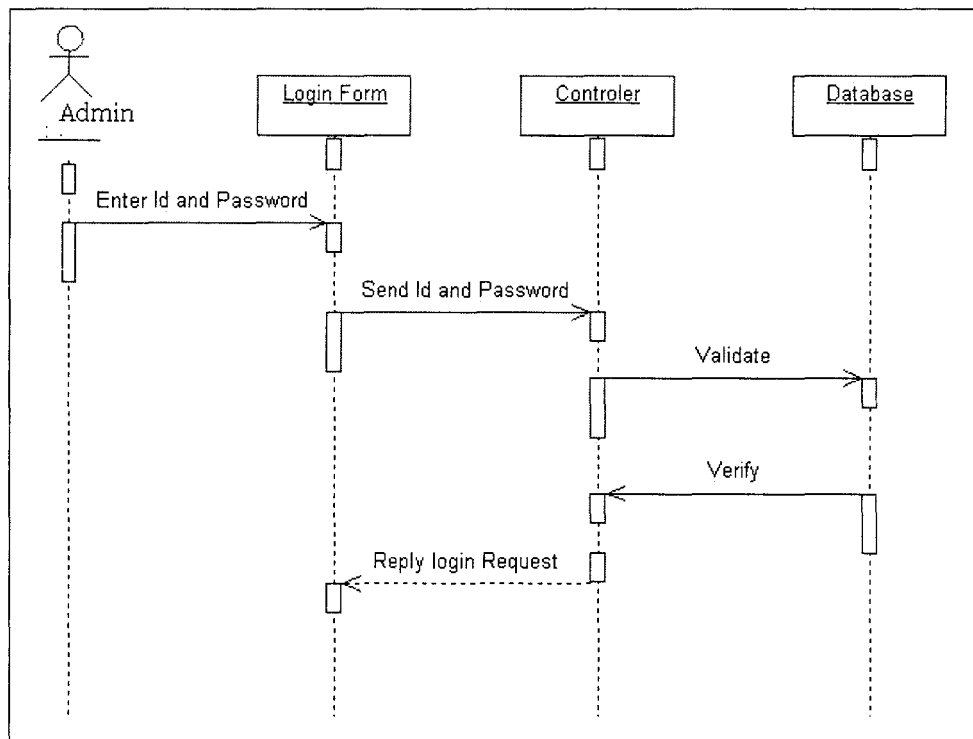
Diagram 3.4 Sequence Diagram for Administrator login

3.2.5 IMPLEMENTATION

The purpose of this phase is to convert the physical system specifications into working and reliable software and document the work that has been done. This phase is time-consuming because all work that has to be completed during implementation. It also include the development which is to executing the design into a physical system by building the technical architecture where can purchasing the material needed to build the system and building the database and programs which the IT specialists write programs which will be used on the system.

After finishing the design phase, the development process is started in order to executing the Cyber Cafe Management System. In this phase, the program in the system can run

properly.

3.2.6 SYSTEM TESTING

After the system has been developed, the system must be tested. In this phase every module should be tested. Although testing process can begin in parallel as coding has begun but at this phase, the entire project need be tested. By testing the developed system it can ensure no errors and surely to improve the weaknesses. Test the system using the established test scripts where test conditions are conducted b y comparing expected outcomes to actual outcomes. Deployment is the systems are placed and used in the actual workforce and the user guide is created. Training is provided to the users of the system, usually through workshops or online.

The testing process is needed to prevent errors occurred in the Cyber Cafe Management System. This phase is the second last page where developer can make testing before present it to the customer. The testing process for Cyber Cafe Management System is done to the user like cyber café administrator or any computer laboratory manager to use this system. The result from the testing can help developer improve the system later.

3.2.7 MAINTENANCE

Maintenance is the final phase in the system development life cycle. By the maintenance can fixing and enhancing of the system. Corrective maintenance is the change made to a system to repair the flaws in its design coding or implementation. Adaptive maintenance is change made to the system to progress its functionality. Perfective maintenance is change made to the system to add new features to improve performance. Preventive maintenance, changes to make the system to avoid possible future problems.

Maintenance in Cyber Cafe Management System is really important to ensure the prices, and new staffs are up-to-date. Other than, the maintenance functioning to ensure the system can have available aid if any difficulties occurred. So, this system can be used for a long period.

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3.3 DEVELOPMENT TOOLS

The specification of the software and hardware for develop the application. This section describe in detail about tool software that will be used along completing this software development. This software will be used and combined it as well to make sure the application becomes user-friendly and easily to access by user.

Table 2.1: Update of Software Requirement to Develop the System

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Windows XP Service Pack 2	- As an operating system to run the system development tools. -To make sure that the system compatible to both Windows Vista and Windows XP
Microsoft Access 2003	- Construct database for the application
Adobe Photoshop CS2 9.0	- To editing the system picture and designing the interface.

Microsoft Office 2007	- It is to make the system documentation such as system presentation, system manual and system planning and scheduling.
- Microsoft Word - Microsoft PowerPoint - Microsoft Project - Microsoft Visio	

3.3.1 VISUAL BASIC 6.0

Visual Basic (VB) is a third-generation event driven programming language and associated development environment from Microsoft for its COM programming model. Visual Basic was derived from BASIC and enables the rapid application development (RAD) of graphical user interface (GUI) applications, access to databases using DAO, RDO, or ADO, and creation of ActiveX controls and objects. Scripting languages such as VBA and VBScript are syntactically similar to Visual Basic, but perform differently.

A programmer can put together an application using the components provided with Visual Basic itself. Programs written in Visual Basic can also use the Windows API, but doing so requires external function declarations. Visual Basic was designed to be easy to learn and use. The language not only allows programmers to create simple GUI applications, but can also develop complex applications as well. Programming in VB is a combination of visually arranging components or controls on a form, specifying attributes, and actions of those components, and writing additional lines of code for more functionality. Since default attributes and actions are defined for the components, a simple program can be created without the programmer having to write many lines of code. Performance problems were experienced by earlier versions, but with faster computers and native code compilation this has become less of an issue.

3.3.2 MICROSOFT ACCESS 2003

Microsoft Access is the recommended PC database application at the University of Durham. It is assumed familiar with using Microsoft Windows and therefore knows how to perform tasks such as accessing commands from menus on the menu bar, selecting objects, entering information into dialog boxes, and moving, and closing, opening, and re-sizing windows.

There are usually at least three different ways of giving commands when using Access by selecting from the menu bar, using toolbar buttons and right-clicking an object to open a shortcut menu of commands. Often there is a keyboard option too. These notes concentrate on the quickest methods, which are usually using the toolbar buttons or right-clicking to open a shortcut menu.

3.3.3 WINDOWS VISTA HOME PREMIUM

Windows Vista, the newest version of Windows, is not an upgrade to Windows XP but an entirely new operating system. If you use Windows XP, you should find many similarities with Vista and expect to gain greater functionality in the areas of communication, multimedia, and security. A new interface, Windows Aero, uses 3D graphics and other high-end visual effects to enhance your interaction with the operating system.

3.3.4 MICROSOFT WINDOWS XP SERVICE PACK 2

Windows XP is known for its improved stability and efficiency over the 9x versions of Microsoft Windows. It presents a significantly redesigned graphical user interface, a change Microsoft promoted as more user-friendly than previous versions of Windows. A new software management facility called Side-by-Side Assembly was introduced to avoid the "DLL hell" that plagued older consumer-oriented 9x versions of Windows.

3.3.5 ADOBE PHOTOSHOP CS2

Adobe Photoshop, or simply Photoshop, is a graphics editing program (also known as a DPD, Desktop Publishing Program) developed and published by Adobe Systems. Photoshop has strong ties with other Adobe software for media editing, animation, and authoring. Files in Photoshop's native format, .PSD, can be exported to and from Adobe Illustrator, Adobe Premiere Pro, After Effects, and Adobe Encore to make professional standard DVDs and provide non-linear editing and special effects services, such as backgrounds, textures, and so on, for television, film, and the Web.

3.3.6 MICROSOFT OFFICE 2007

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3.4 PROJECT SCHEDULE AND MILESTONES

This section will list out the entire schedule while developing the project from the start until the end of the project. Milestones are needed to help the developer plan and identify the exact date to start or to finish a certain processes required in the project. This can help the developer finish the project on time. The project schedule and milestones

also will help the developer to allocate time-management, budget and workforce availability. The project schedule and milestones will be presented in the Gantt chart in Appendix.

Table 3.4: Project Schedule for PSM I

Week	Activities	Duration	Deliverable
1	PSM supervision process starts	6 Jul 2009 to 10 Jul 2009	Check Supervisor and Evaluator Status from list
2	Submit Chapter 1 – Introduction	13 Jul 2009 to 17 Jul 2009	Chapter 1
3	Discuss Chapter 2 – Literature Review	20 Jul 2009 to 24 Jul 2009	
4	Research on Chapter 2	27 Jul 2009 to 31 Jul 2009	
5	Research on Chapter 2	3 Aug 2009 to 7 Aug 2009	
6	Submit Chapter 2 – Literature Review	10 Aug 2009 to 14 Aug 2009	Chapter 1 and 2
7	Discuss – Analysis of Project	17 Aug 2009 to 21 Aug 2009	
8	Project pre-presentation	24 Aug 2009 to	

		28 Aug 2009	
9	Apply for hardware/software purchase	1 Sep 2009 to 4 Sep 2009	
10	Discuss Chapter 3 – Methodology	8 Sep 2009 to 11 Sep 2009	Status = Proceed or Extend
11	Research on Chapter 3	14 Sep 2009 to 18 Sep 2009	
12	Research on Chapter 3	21 Sep 2009 to 25 Sep 2009	
13	Submit Chapter 3 – Methodology	28 Sep 2009 to 2 Oct 2009	Chapter 1, 2 and 3
14	Submit Chapter 4 – Conclusion	5 Oct 2009 to 9 Oct 2009	Chapter 1, 2, 3 and 4
15	Submit Report Draft and Log Book	12 Oct 2009 to 16 Oct 2009	
16	Correction on report	19 Oct 2009 to 23 Oct 2009	
17	Project presentation	26 Oct 2009 to 30 Oct 2009	PSM 1 Final Report Presentation

CHAPTER IV

IMPLEMENTATION

4.1 Introduction

This chapter will discuss about Structured Query Language (SQL), coding of system and the explanation. The explanation is important to make all the SQL and coding be in clearly and understanding. SQL is a standard interactive and programming language for querying and modifying data and managing databases. System is not have a function without the right coding and for that, the sequential and declaration of coding must be write in the right way and systematic.

4.2 SQL Explanation

This system does have two categories of query tables which one from the server application and the other is from the client application. The server provides two query tables which is; cyberpeople and nodestatus while the client have only one table which is; serverinforma. . These whole tables will connect to the VB forms base on the functional forms that will lead the tables to hold the certain data.
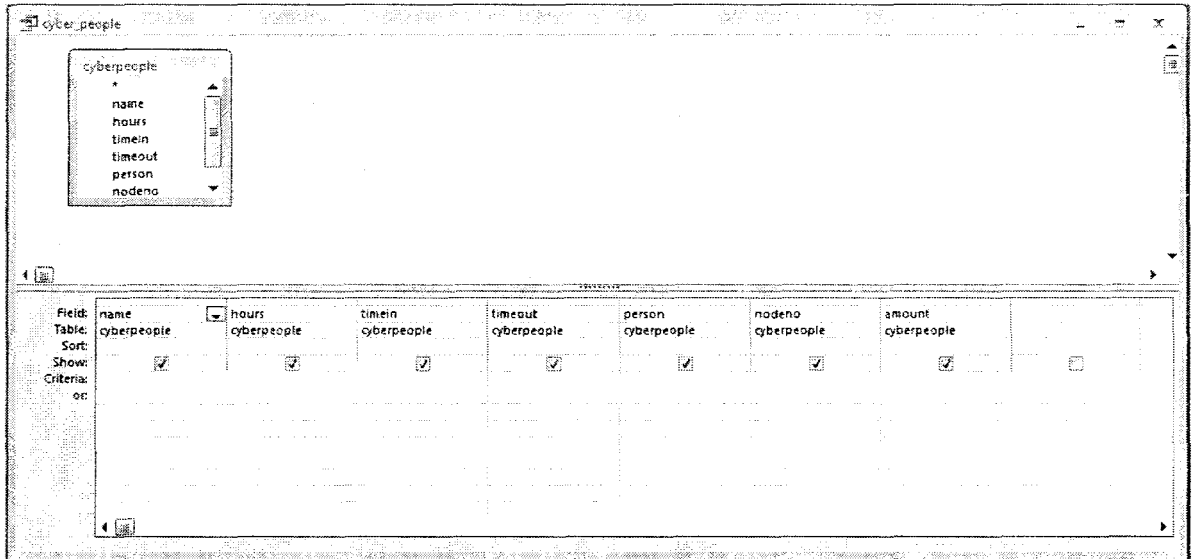
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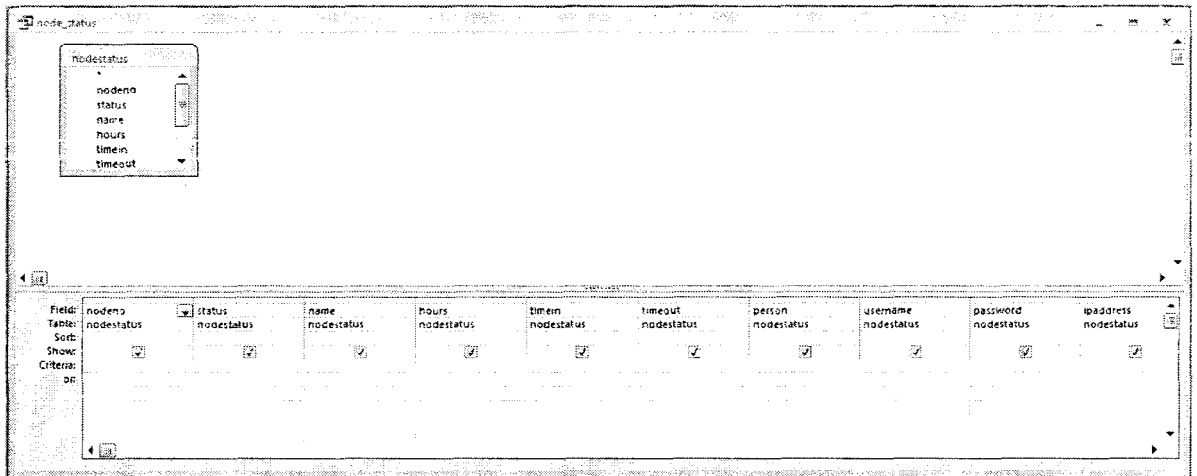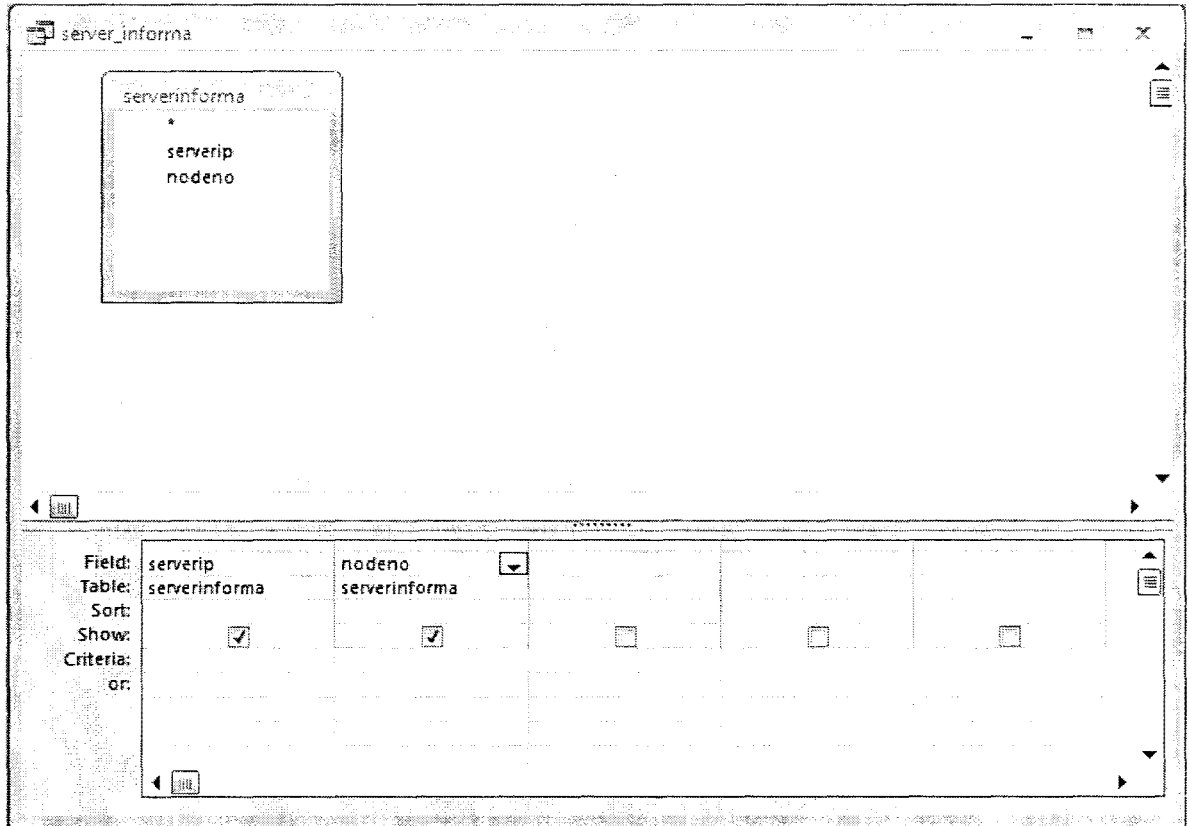**Figure 4.2.1:** cyberpeople Class Query

Figure 4.2.2: nodestatus Class Query

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Figure 4.2.3: serverinforma Class Query

The databases are connected to the system through the ODBC Data Source set up. In order to set the ODBC Data Source, some configurations do need to be implying by using ODBC Data Source Administrator application.

4.3 ODBC Data Source set up

1) Via Windows Control Panel, double-click on Administrative Tools, then Data Sources (ODBC).Then the ODBC Data Source Administrator screen is displayed, as shown below. Click on the System DSN tab.
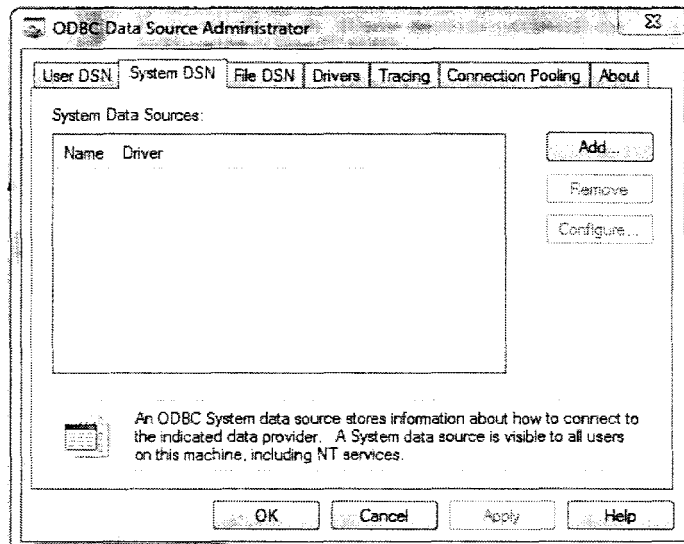

Figure 4.3.1: ODBC Data Source Administrator Window

2) The Create New Data Source dialog box will appear after clicking the Add button. Select Microsoft Access Driver (*.mdb) from the list and click the Finish button.
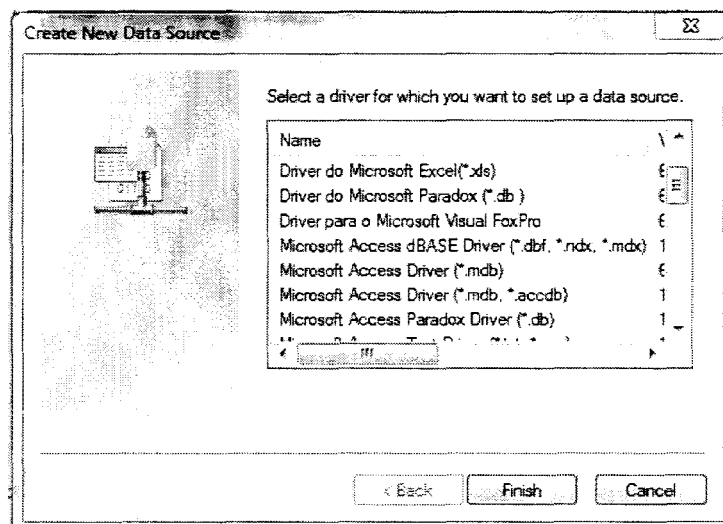

Figure 4.3.2: Create New Data Source Window

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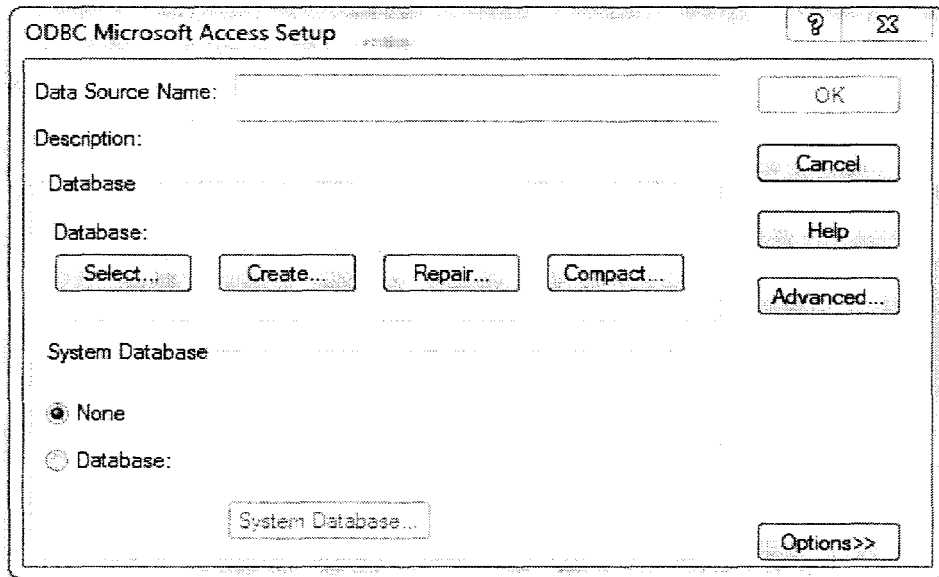3) The ODBC Microsoft Access Setup dialog box will appear. For Data Source Name, we do choose to name it Adodc1.

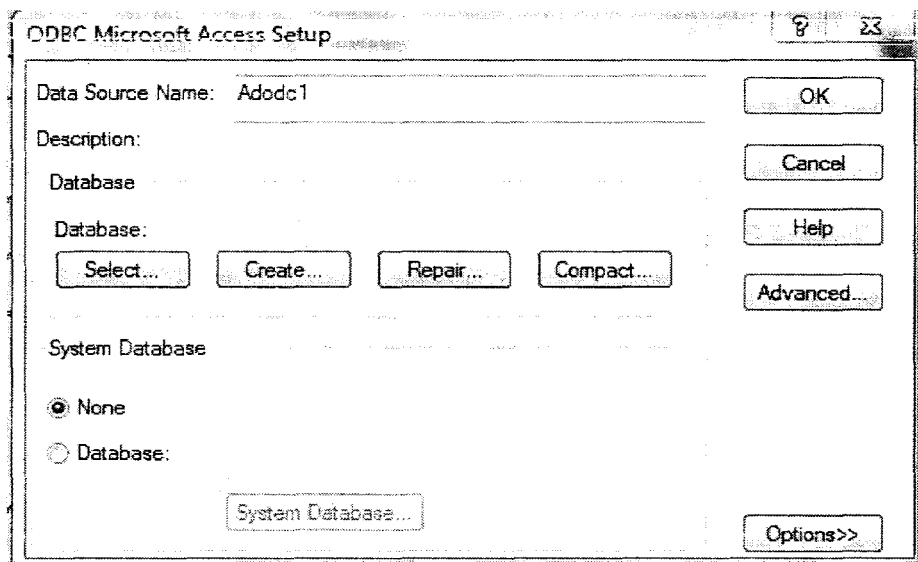**Figure 4.3.3:** ODBC Microsoft Access Setup Window

Figure 4.3.4: ODBC Microsoft Access Setup Window

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4) Click the Select button. The Select Database dialog box appears. Navigate to the folder that contain our database, select database from the file list, and click OK.
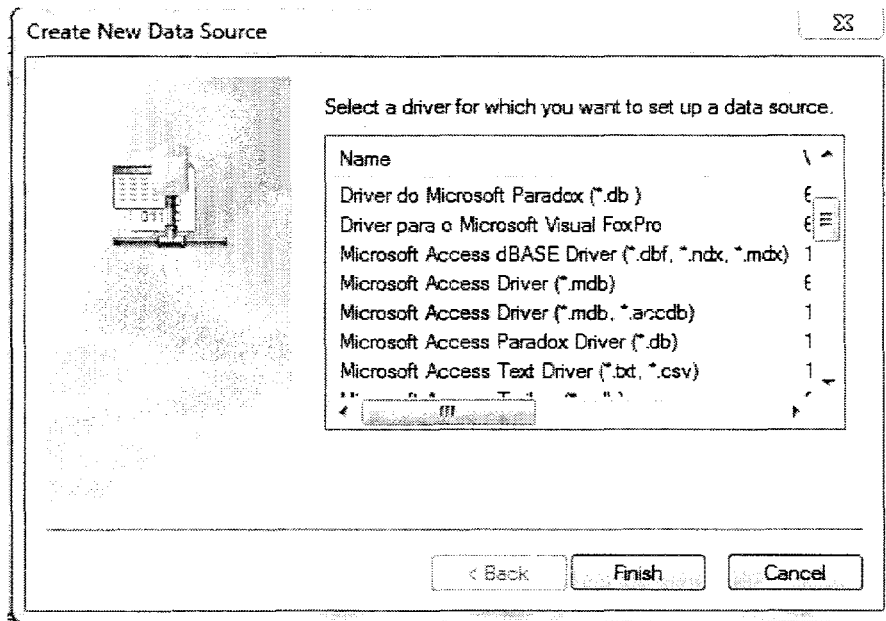

Figure 4.3.5: Create New Data Source Window

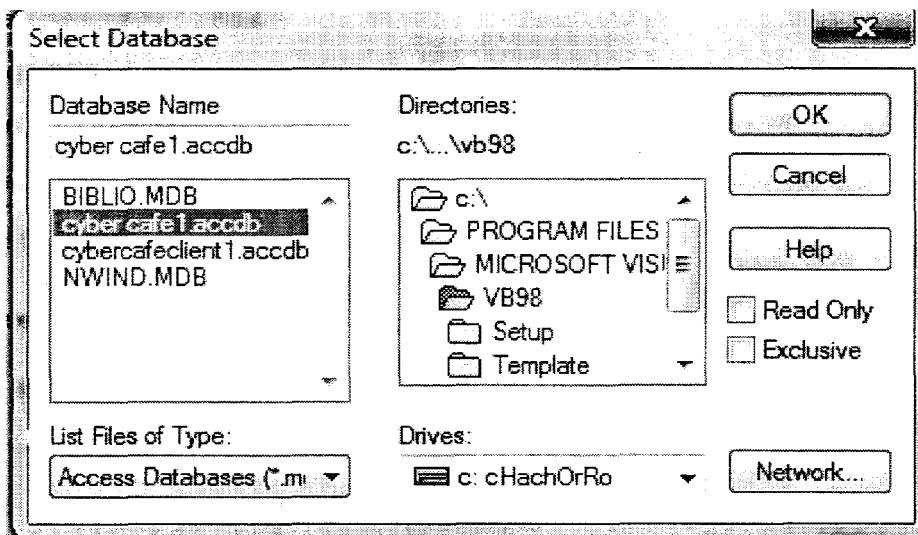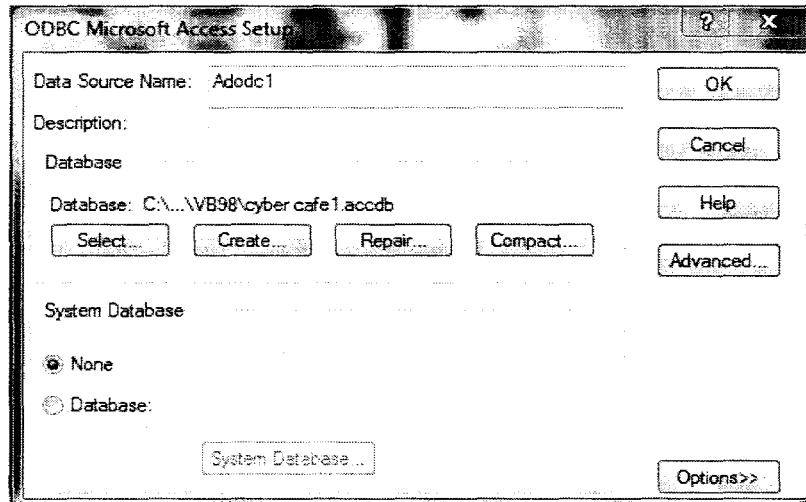**Figure 4.2.3.6:** Select Database Window

5) When you are returned to the ODBC Microsoft Access Setup screen, the database you selected should be reflected as shown below. Click OK to dismiss this screen.

Figure 4.3.7: ODBC Microsoft Access Setup Window

6) When you are returned to the ODBC Data Source Administrator screen, the new DSN should appear as shown below. Click OK to dismiss this screen.
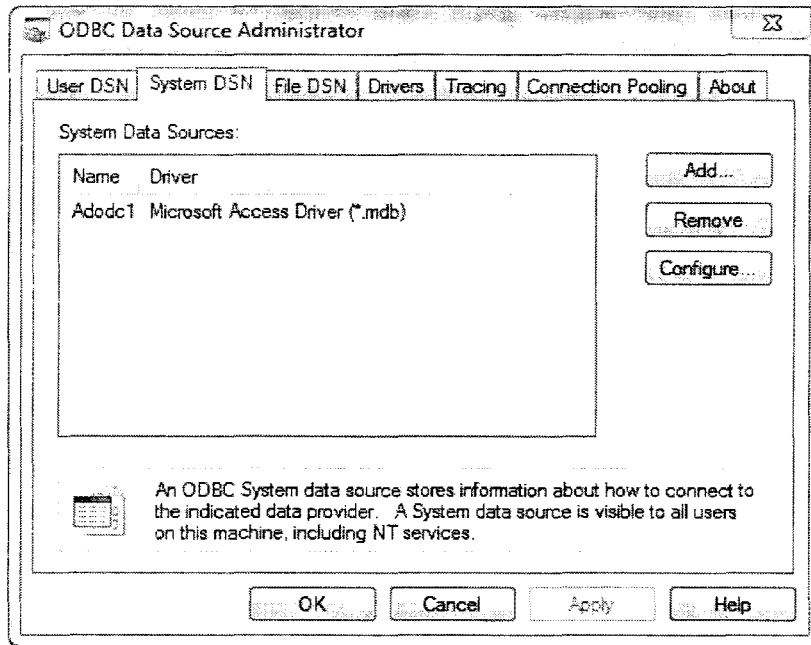
Figure 4.3.8: ODBC Data Source Administrator Window

7) Start a new VB project, and from the Components dialog box (invoked from the Project -> Components menu), select Microsoft ADO Data Control 6.0 (SP*x*) as shown below and click OK.
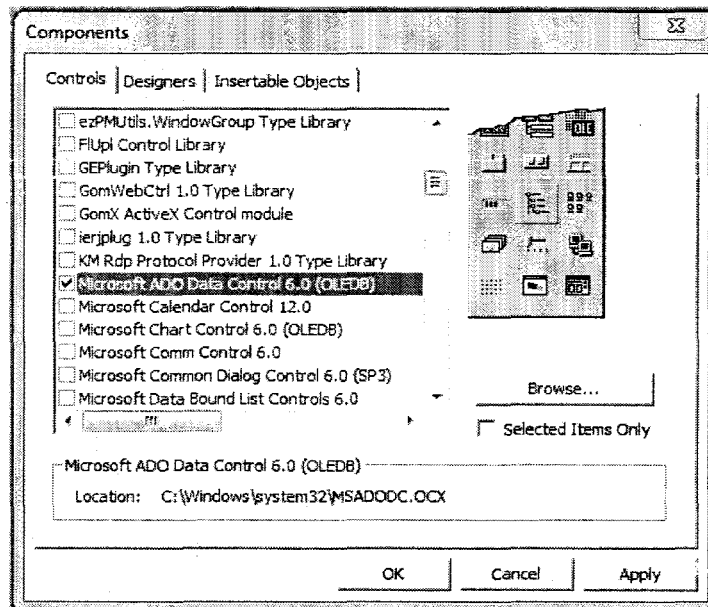
Figure 4.3.9: Components Window

8) The ADO Data Control should appear in your toolbox as shown below.

Figure 4.3.10: ADO Data Control shown in toolbox

The connection of the database is then having been initialized. It also does need to apply the ADO Data Control on the selected form and set the form properties on Data Source Name to be synchronize to the database name.

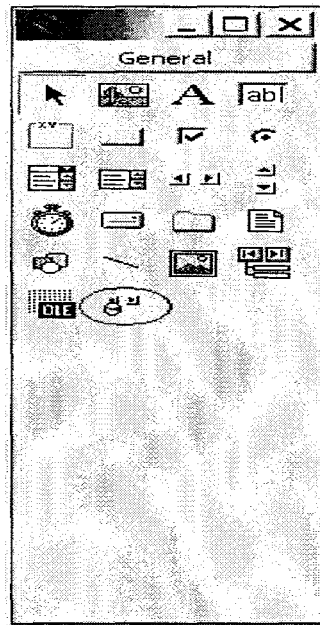For the functionality of the system towards the database, there were still a lot of sequences of coding that still be needed to be implemented. The explanation of the coding part will be explained here later through the Interface and Coding Explanation section.

4.4 Interface and Coding Explanation

Cyber café Management System was been implemented as a client-server application and for sure it is, we do separate the functionality for the Administrator (server application) and the customer (client application). This system is fully developed by using VB6 either the interface or the coding part. Here is briefly explanation of the interfaces and the coding and for the full view of the coding were completely stated in the report. Cyber Café Management System was developed using winsock control and socket programming which lead the system to be able to operate and built the

interaction session between the server and the client part of system. The interaction between the nodes are briefly can be explain by the implementation of UDP Protocol that allow interaction within the network.

4.4.1 Administration Application (Server)

4.4.1.1 Splash Screen Interface

Figure 4.4.1: Splash Screen Inte.face (Server)

Splash Screen Interface Coding

Private Sub Form_Click()

```vb
Unload Me
Me.Visible = False
MDIForm1.Visible = True
End Sub


Private Sub Label1_Click(Index As Integer)
Unload Me
Me.Visible = False
MDIForm1.Visible = True
End Sub


Private Sub Label3_Click()
Unload Me
Me.Visible = False
MDIForm1.Visible = True
End Sub
Private Sub Picture1_Click()
Unload Me
Me.Visible = False
MDIForm1.Visible = True
End Sub


Private Sub Timer1_Timer()
If Picture1.Width >= 8295 Then
Timer1.Enabled = False
Else
Picture1.Width = Picture1.Width + 100
End If
End Sub
```

Splash Screen Coding Description

The splash screen is only the pre-interface of the system. The coding do order and instruct the element in the Splash Screen frame to be unload or appear right just after the system initiating. To enter the main page of the system, just follow the instruction

that have been state there and the main page will be shown up. The coding also to let user to enter the main page after clicking to the Splash Screen frame.

4.4.1.2 Main Administration Interface
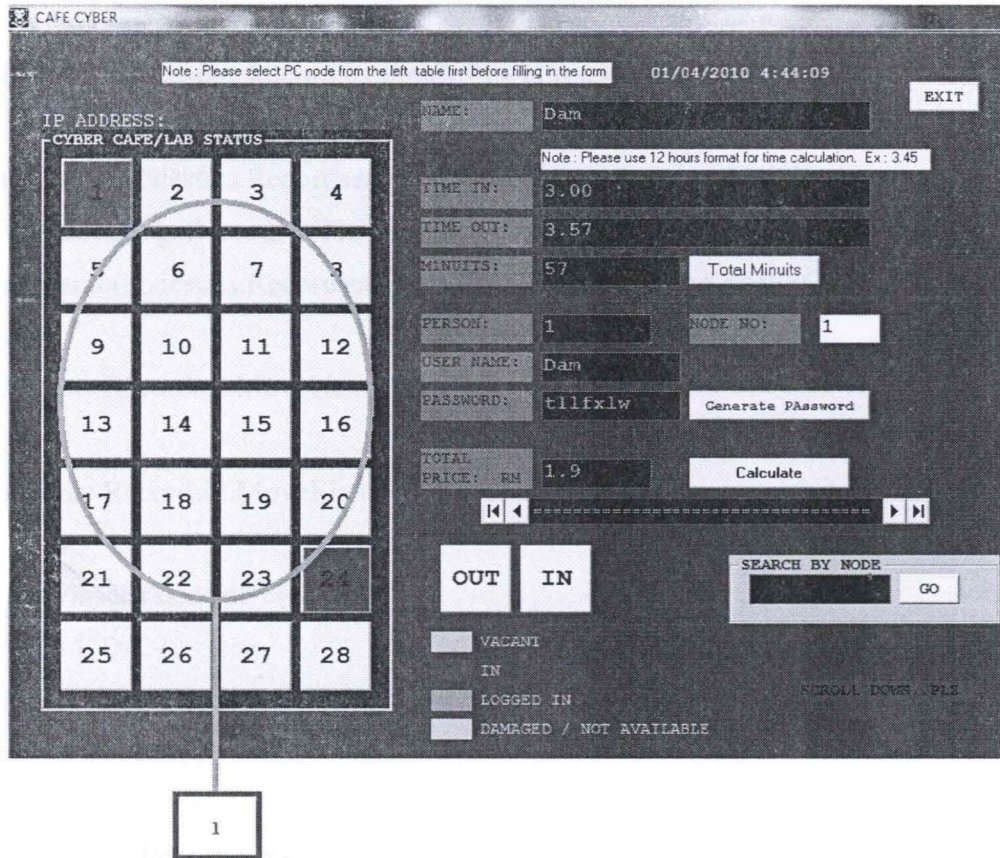
Figure 4.4.2: Main Administration Interface : Description 1 (Server)

Global Coding and Declaration Coding

Dim ipindex As Integer

Dim gotstring As String

Private Sub Form_Load()

cafecyber.nodestats.DatabaseName = App.Path & "\cyber cafe1.mdb"

cafecyber.nodestats1.DatabaseName = App.Path & "\cyber cafe1.mdb"

cafecyber.cyberpeopled.DatabaseName = App.Path & "\cyber cafe1.mdb"

nodestats.Refresh

nodestats.Recordset.MoveFirst

While nodestats.Recordset.EOF <> True

If nodestats.Recordset.Fields(1) = "vacant" Then

cmdseatno(nodestats.Recordset.Fields(0) - 1).BackColor = &H8000000F

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```
ElseIf nodestats.Recordset.Fields(1) = "in" Then

cmdseatno(nodestats.Recordset.Fields(0) - 1).BackColor = &HFF&

ElseIf nodestats.Recordset.Fields(1) = "logged" Then

cmdseatno(nodestats.Recordset.Fields(0) - 1).BackColor = &HFF00&

ElseIf nodestats.Recordset.Fields(1) = "damaged" Then

cmdseatno(nodestats.Recordset.Fields(0) - 1).BackColor = &HFFC0C0

End If

nodestats.Recordset.MoveNext

Wend

nodestats.Recordset.MoveFirst


'load winsock control

For i = 1 To 27

On Error Resume Next

Load Winsock1(i)

Next i

'assign ip address..ports etc

While nodestats.Recordset.EOF <> True

If nodestats.Recordset.Fields(9) <> "" Then

'close it before being used

'Winsock1(nodestats.Recordset.Fields(0) - 1).Close

Winsock1(nodestats.Recordset.Fields(0) - 1).RemoteHost =

nodestats.Recordset.Fields(9)

Winsock1(nodestats.Recordset.Fields(0) - 1).RemotePort = 11111


Winsock1(nodestats.Recordset.Fields(0) - 1).LocalPort =

nodestats.Recordset.Fields(0)

End If

nodestats.Recordset.MoveNext

Wend

nodestats.Recordset.MoveFirst


'binding port and ip together..for udp protocol

For i = 0 To 27
```

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```
Winsock1(i).Bind Winsock1(i).LocalPort
Next i
On Error Resume Next
lblipaddress.Caption = Winsock1(0).LocalIP
End Sub


Private Sub Form_Unload(Cancel As Integer)
For i = 1 To 27
Unload Winsock1(i)
Next i
End Sub


Private Sub Winsock1_DataArrival(Index As Integer, ByVal bytesTotal As Long)
Winsock1(i).GetData gotstring, vbString
ipindex = i
If gotstring = "[extension]" Then
Call extensionupdate
ElseIf gotstring = "[cybersurfended]" Then
cmdseatno(ipindex).BackColor = &HFF&
Call inupdate
Else
processdata gotstring
End If
End Sub


Sub processdata(data As String)
Dim username As String
Dim password As String
Dim nodeno As Integer
'extracting username and password
password = Mid(data, InStr(1, data, "::") + 2)
nodeno = Right(password, 1)
username = Left(data, InStr(1, data, "::") - 1)
```

```
'verifying the data from database
nodestats1.Refresh
nodestats1.Recordset.MoveFirst
While nodestats1.Recordset.EOF <> True
If nodestats1.Recordset.Fields(0) = nodeno Then
If nodestats1.Recordset.Fields(7) = username And nodestats1.Recordset.Fields(8) =
Mid(password, 1, Len(password) - 1) Then

cmdseatno(ipindex).BackColor = &HFF00&
'update the database
Call loggedupdate
Exit Sub
End If
Winsock1(ipindex).SendData ("[invalid login]")
Exit Sub
End If
nodestats1.Recordset.MoveNext
Wend
Winsock1(ipindex).SendData ("[invalid login]")
End Sub



Sub loggedupdate()
nodestats1.Refresh
nodestats1.Recordset.MoveFirst
While nodestats1.Recordset.EOF <> True
If nodestats1.Recordset.Fields(0) = ipindex + 1 Then
nodestats1.Recordset.Edit
nodestats1.Recordset.Fields(1) = "logged"
nodestats1.Recordset.Fields(4) = Now
nodestats1.Recordset.Fields(5) = DateAdd("h", Trim(Text2.Text), Now)
nodestats1.Recordset.Update
Winsock1(ipindex).SendData ("[success]") & nodestats1.Recordset.Fields(5)
Exit Sub
```

```
End If

nodestats1.Recordset.MoveNext

Wend

nodestats.Refresh

End Sub


Sub extensionupdate()

nodestats1.Refresh

nodestats1.Recordset.MoveFirst

While nodestats1.Recordset.EOF <> True

If nodestats1.Recordset.Fields(0) = ipindex + 1 Then

nodestats1.Recordset.Edit

nodestats1.Recordset.Fields(3) = nodestats1.Recordset.Fields(3) + 1

nodestats1.Recordset.Fields(5) = DateAdd("h", Trim(1),

nodestats1.Recordset.Fields(5))

nodestats1.Recordset.Update


'sending the extended time to the client..

Winsock1(ipindex).SendData "[extensiongranted]" & nodestats1.Recordset.Fields(5)

nodestats1.Refresh

Exit Sub

End If

nodestats1.Recordset.MoveNext

Wend

End Sub



Sub inupdate()

cmdseatno(ipindex).BackColor = &HFF&

nodestats.Refresh

nodestats.Recordset.MoveFirst

While nodestats.Recordset.EOF <> True

If nodestats.Recordset.Fields(0) = ipindex + 1 Then

nodestats.Recordset.Edit
```

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nodestats.Recordset.Fields(1) = "in"

nodestats.Recordset.Update

MsgBox "Please encash the customer."

Exit Sub

End If

nodestats.Recordset.MoveNext

Wend

End Sub

Sub changecoloronout()

nodestats.Refresh

nodestats.Recordset.MoveFirst

While nodestats.Recordset.EOF <> True

If nodestats.Recordset.Fields(1) = "vacant" Then

cmdseatno(nodestats.Recordset.Fields(0) - 1).BackColor = &H8000000F

ElseIf nodestats.Recordset.Fields(1) = "in" Then

cmdseatno(nodestats.Recordset.Fields(0) - 1).BackColor = &HFF&

ElseIf nodestats.Recordset.Fields(1) = "logged" Then

cmdseatno(nodestats.Recordset.Fields(0) - 1).BackColor = &HFF00&

ElseIf nodestats.Recordset.Fields(1) = "damaged" Then

cmdseatno(nodestats.Recordset.Fields(0) - 1).BackColor = &HFFC0C0

End If

nodestats.Recordset.MoveNext

Wend

nodestats.Recordset.MoveFirst

End Sub

Global Coding and Declaration Explanation

The coding in this global part was implied for several types of reason and usage. One of them are to create link to the database file so then the data can be save, update and been deleted corresponding to the current status. It also contain serial of code that controlling the initiation and termination link of the network within the same range of IP addresses. Besides, there is also coding to detect the current server IP address. For some reason, there is several function that being imply in the global declaration

as a function that will be call by the other specific items of functions such as buttons and labels.

Description 1 (Seat Number Buttons) Coding

```
Private Sub cmdseatno_MouseUp(Index As Integer, Button As Integer, Shift As Integer, x As Single, Y As Single)
holdbuttonindex = Index
mnugo_Click
If Button = vbLeftButton Then
PopupMenu mnunodestatus
End If
End Sub


Private Sub mnuassignip_Click()
Dim ip As String
ip = InputBox("Please Assign An IP Address To This Node")
nodestats.Recordset.Edit
On Error GoTo x
nodestats.Recordset.Fields(9) = ip
nodestats.Recordset.Update
Exit Sub
x:
MsgBox Err.Description
End Sub


Private Sub mnudamaged_Click()
cmdseatno(holdbuttonindex).BackColor = &HFFC0C0
nodestats.Refresh
nodestats.Recordset.MoveFirst
While nodestats.Recordset.EOF <> True
If nodestats.Recordset.Fields(0) = holdbuttonindex + 1 Then
nodestats.Recordset.Edit
nodestats.Recordset.Fields(1) = "Damaged"
```

```
nodestats.Recordset.Update

Exit Sub
End If
nodestats.Recordset.MoveNext
Wend


Private Sub mnuin_Click()
cmdseatno(holdbuttonindex).BackColor = &HFF&
nodestats.Refresh
nodestats.Recordset.MoveFirst
While nodestats.Recordset.EOF <> True
If nodestats.Recordset.Fields(0) = holdbuttonindex + 1 Then
nodestats.Recordset.Edit
nodestats.Recordset.Fields(1) = "in"
nodestats.Recordset.Update
MsgBox "Node have been selected. Please Fill in the details in the corresponding
field.Otherwise make it vacant."
Exit Sub
End If
nodestats.Recordset.MoveNext
Wend
End Sub


Private Sub mnuvacant_Click()
cmdseatno(holdbuttonindex).BackColor = &HC0C0C0
nodestats.Refresh
nodestats.Recordset.MoveFirst
While nodestats.Recordset.EOF <> True
If nodestats.Recordset.Fields(0) = holdbuttonindex + 1 Then
nodestats.Recordset.Edit
nodestats.Recordset.Fields(1) = "vacant"
nodestats.Recordset.Update
```

```
Exit Sub
End If
nodestats.Recordset.MoveNext
Wend
End Sub


Private Sub mnugo_Click()
nodestats.Recordset.FindFirst "nodeno=" & holdbuttonindex + 1
End Sub
```

Description 1 (Seat Number Buttons) Coding Explanation

This serial of coding were implemented in order to set some functionality to the sub menus that can appear from the Seat Number Buttons which are In, Out, Vacant, Go and Assign IP sub menu. The codes allow server to set the nodes status to be Vacant, In and Out, assign the client IP address remotely and search for user profile that have logged in by the sub menu Go. There are also the codes for updating the database table so then the system will be inform about the current status that have been save in the database table, updating the database and trace and extracting the username and password that access from the client application.
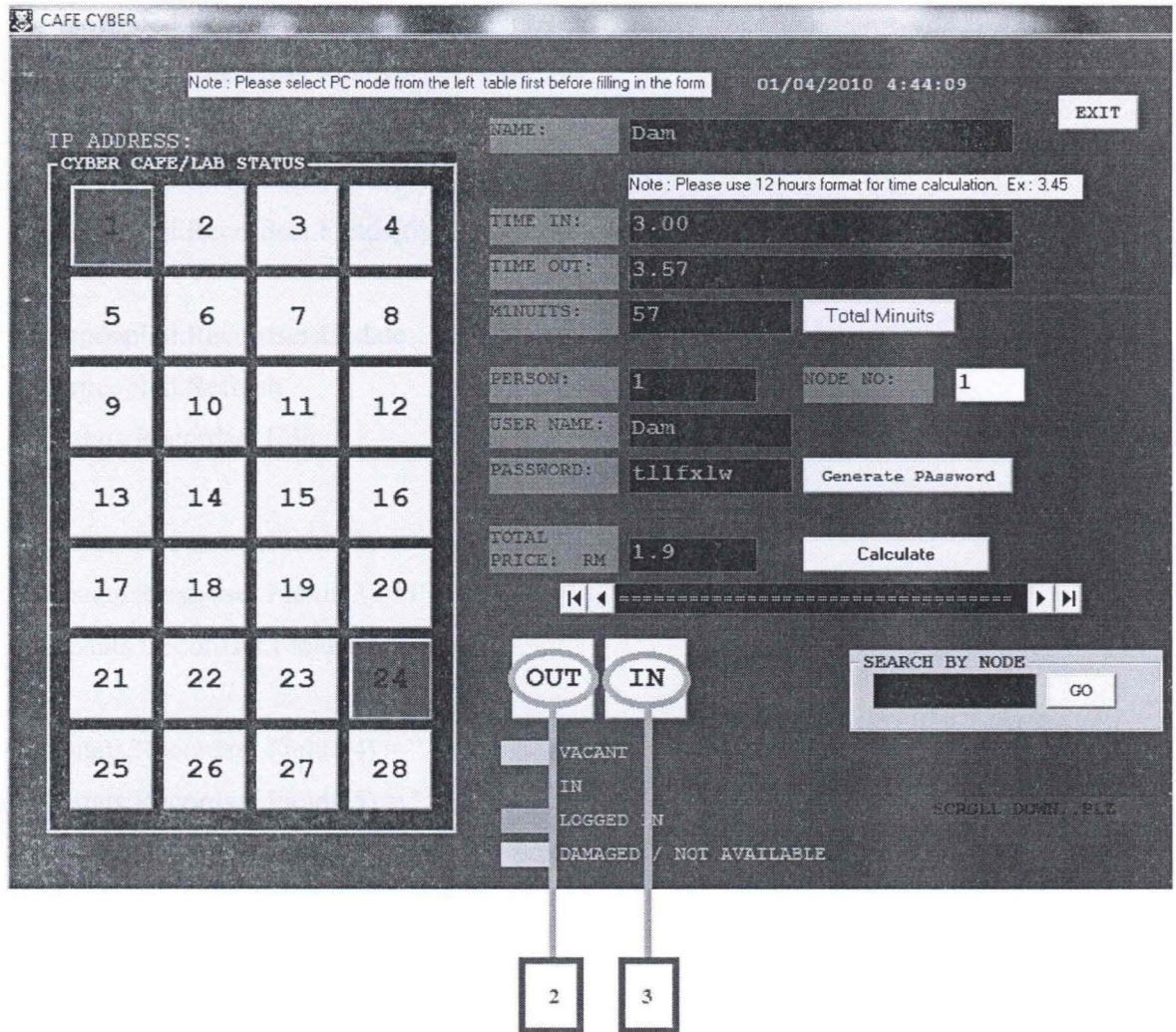
Figure 4.4.3: Main Administration Interface : Description 2 & 3 (Server)

Description 2 (OUT Button) Coding

Private Sub cmdout_Click()

If Text1.Text = " " Or Text1.Text = "" Or Text2.Text = "0" Or Text2.Text = "" Then

MsgBox "Can't update empty field.Please fill in the form first"

Exit Sub

End If

cyberpeopled.Recordset.AddNew

cyberpeopled.Recordset.Fields(0) = Text1.Text

cyberpeopled.Recordset.Fields(1) = Text2.Text

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```
cyberpeopled.Recordset.Fields(2) = Text3.Text
cyberpeopled.Recordset.Fields(3) = Text4.Text
cyberpeopled.Recordset.Fields(4) = Text5.Text
cyberpeopled.Recordset.Fields(5) = Val(Text9.Text)
cyberpeopled.Recordset.Fields(6) = Val(Text6.Text)


cyberpeopled.Recordset.Update
cyberpeopled.Refresh
nodestats.Recordset.Edit


nodestats.Recordset.Fields(2) = " "
nodestats.Recordset.Fields(3) = 0
'nodestats.Recordset.Fields(3) = ""


nodestats.Recordset.Fields(4) = " "
nodestats.Recordset.Fields(5) = " "
nodestats.Recordset.Fields(6) = 0
'nodestats.Recordset.Fields(6) = " "
nodestats.Recordset.Fields(7) = " "
nodestats.Recordset.Fields(8) = " "
nodestats.Recordset.Fields(1) = "vacant"
nodestats.Recordset.Update
nodestats.Refresh
Call changecoloronout
MsgBox "User data backed up successfully"
End Sub
```

Description 2 (OUT Button) Coding Explanation

The coding that been implied here allow system to detect if the fields of the form is
empty, it will pop out message box of 'Cannot update the empty field' while the field
are filled, then it will update the database for the backup of previous customer data
and set clear the form.

Description 3 (IN Button) Coding

```
Private Sub cmdin_Click()
'if the pc is damaged..or not there...i.e. violet
'in color...don't let in
If cmdseatno(Val(Text9.Text) - 1).BackColor = &HFFC0C0 Then
Text1.Text = ""
Text2.Text = ""
Text2.Text = ""
Text4.Text = ""
Text5.Text = ""
Text6.Text = ""
Text7.Text = ""
Text8.Text = ""
MsgBox "Can't select this node.This PC is in damage status."
Exit Sub
End If
'ready for getting in
nodestats.Refresh
nodestats.Recordset.MoveFirst
While nodestats.Recordset.EOF <> True
If nodestats.Recordset.Fields(0) = Val(Text9.Text) Then
nodestats.Recordset.Edit
nodestats.Recordset.Update
MsgBox "Record updated"
nodestats.Recordset.MoveFirst
Exit Sub
End If
nodestats.Recordset.MoveNext
Wend
End Sub
```

Description 3 (IN Button) Coding Explanation

The coding here will make the Seat Number status or node status will turn to red color besides load the winsock control, assigning the IP address for the node, and binding the port and IP address together to allow UDP Protocol connection.
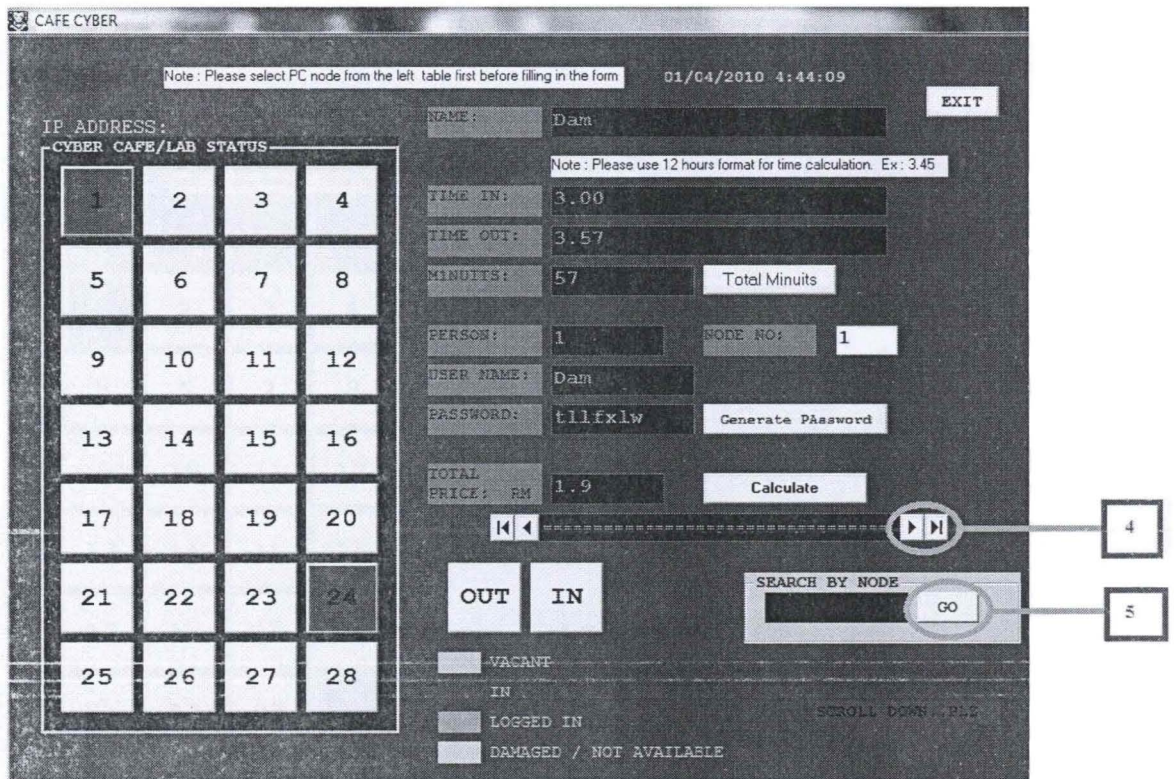

Figure 4.4.4: Main Administration Interface : Description 4 & 5 (Server)

Description 4 & 5 (GO Button) Coding

```
Private Sub cmdgoo_Click()
On Error GoTo errhand
nodestats.Recordset.FindFirst "nodeno=" & txtnood
Exit Sub
errhand:
MsgBox "Not found"
```

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End Sub

Description 4 & 5 (GO Button) Coding Explanation

Button go contained the codes that allow administrator to search client info through the node or seat number of the cyber café system. If the node is being used by the customer, it will appear the result of information through the form. While if the node was using by no one or vacant, the system will pop up message box informing that no profile of user found.
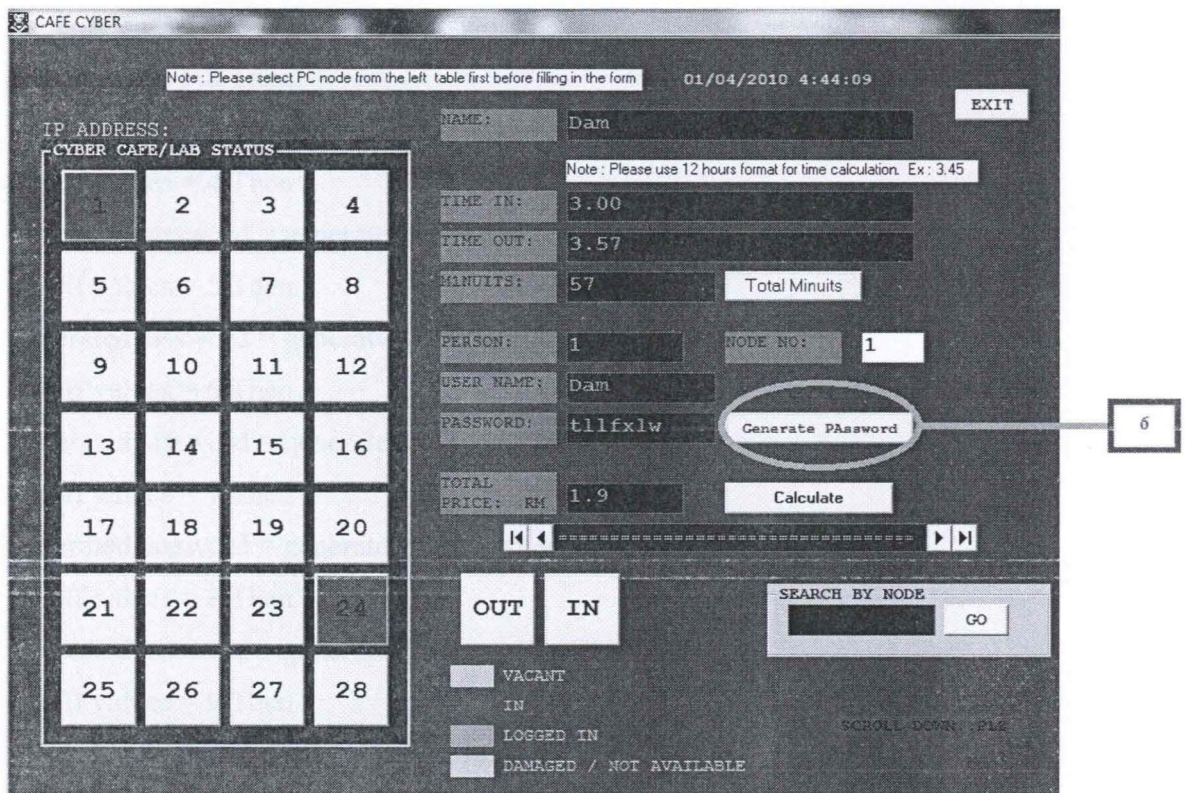

Figure 4.4.5: Main Administration Interface : Description 6 (Server)

Description 6 (Generate Password Button) Coding

'create random password
Private Sub Command1_Click()
Dim values As Integer
Dim generatedpassword As String

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```
Dim i As Integer
For i = 0 To 6
Randomize
'create random no between 0 to 25
values = (Int(Rnd(1) * 25))
If values = 0 Then
generatedpassword = generatedpassword & "a"
ElseIf values = 1 Then
generatedpassword = generatedpassword & "b"
ElseIf values = 2 Then
generatedpassword = generatedpassword & "c"
ElseIf values = 3 Then
generatedpassword = generatedpassword & "d"
ElseIf values = 4 Then
generatedpassword = generatedpassword & "e"
ElseIf values = 5 Then
generatedpassword = generatedpassword & "f"
ElseIf values = 6 Then
generatedpassword = generatedpassword & "g"
ElseIf values = 7 Then
generatedpassword = generatedpassword & "h"
ElseIf values = 8 Then
generatedpassword = generatedpassword & "i"
ElseIf values = 9 Then
generatedpassword = generatedpassword & "j"
ElseIf values = 10 Then
generatedpassword = generatedpassword & "k"
ElseIf values = 11 Then
generatedpassword = generatedpassword & "l"
ElseIf values = 12 Then
generatedpassword = generatedpassword & "m"
ElseIf values = 13 Then
generatedpassword = generatedpassword & "n"
ElseIf values = 14 Then
```

```
generatedpassword = generatedpassword & "o"
ElseIf values = 15 Then
generatedpassword = generatedpassword & "p"
ElseIf values = 16 Then
generatedpassword = generatedpassword & "q"
ElseIf values = 17 Then
generatedpassword = generatedpassword & "r"
ElseIf values = 18 Then
generatedpassword = generatedpassword & "s"
ElseIf values = 19 Then
generatedpassword = generatedpassword & "t"
ElseIf values = 20 Then
generatedpassword = generatedpassword & "u"
ElseIf values = 21 Then
generatedpassword = generatedpassword & "v"
ElseIf values = 22 Then
generatedpassword = generatedpassword & "w"
ElseIf values = 23 Then
generatedpassword = generatedpassword & "x"
ElseIf values = 24 Then
generatedpassword = generatedpassword & "y"
ElseIf values = 25 Then
generatedpassword = generatedpassword & "z"
End If
Next i
Text8.Text = generatedpassword
generatedpassword = ""
End Sub
```

Description 6 (Generate Password Button) Coding Explanation

The coding is implemented to generate random password to be assign for the login customer. Each time the same node been registered by customer, it will generate the

different password. When the button Generate Password been click, the generated password will be appear at the Password text box.
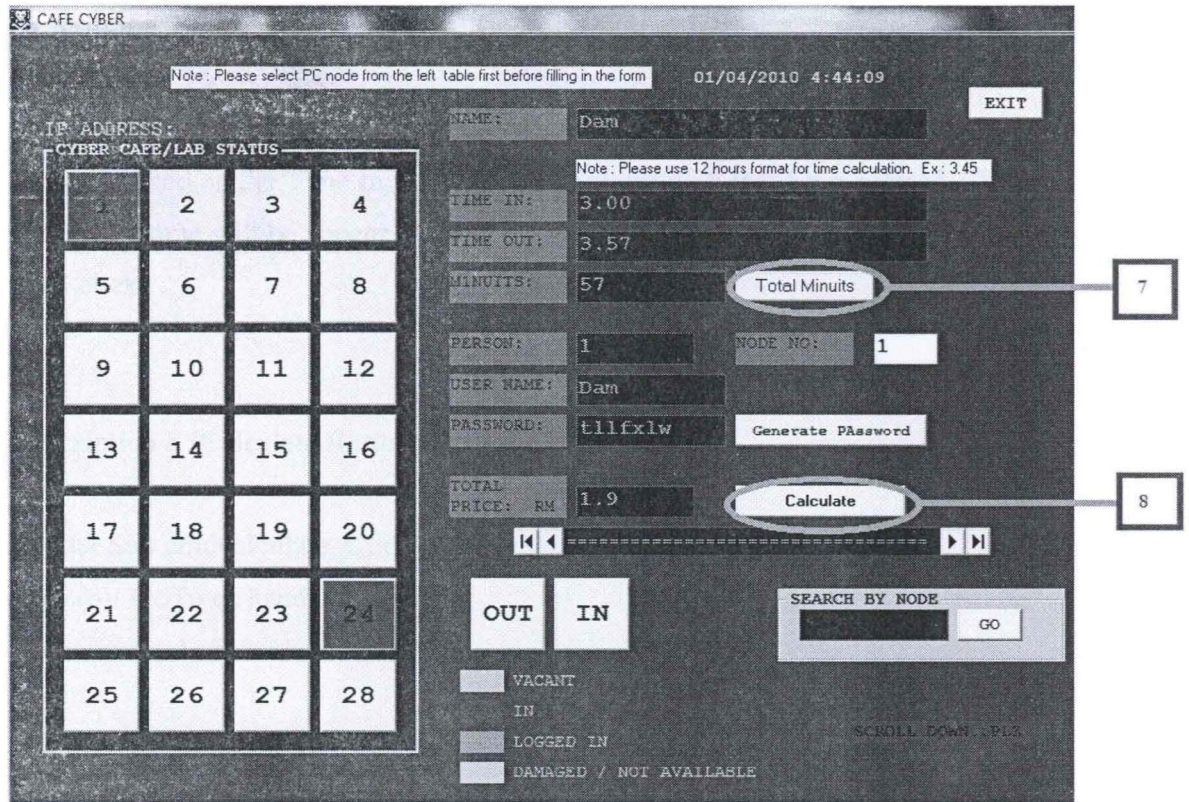

Figure 4.4.6: Main Administration Interface : Description 7 & 8 (Server)

Description 7 (Total Minute Button) Coding

```
Private Sub ttlhoursbtn_Click()
Dim MinsDiff As String
Dim TheHours As String
Dim hh As Integer
Dim mm As Integer
Dim totaltime As Integer
MinsDiff = DateDiff("n", Text3.Text, Text4.Text)
MinsDiff = IIf(MinsDiff < 0, MinsDiff + 1440, MinsDiff)
TheHours = Format(Int(MinsDiff / 60), "00")
MinsDiff = Format(MinsDiff Mod 60, "00")
hh = TheHours * 60
totaltime = hh + MinsDiff
```

Text2.Text = totaltime

Description 7 (Total Minute Button) Coding Explanation

This coding will calculate the total amount of time that user have been used for the services based on the Time In and Time Out information that been entered. The total amount of time will be appear at the Minutes text box once the Total Minute button been click.

Description 8 (Calculate Button) Coding

```
Private Sub cmdcalculate_Click()
On Error GoTo errhand
Dim numtot As Double

numtot = CDbl(Text2.Text)

x = InputBox("Enter amount per hour:")
'Text6.Text = Val(Text2.Text) * (x / 60)
Text6.Text = numtot * (x / 60)

Call cmdin_Click
Exit Sub
errhand:
MsgBox Err.Description
End Sub
```

Description 8 (Calculate Button) Coding Explanation

This coding will calculate the total amount of fees or money that user have to pay for the services based on the Time In, Time Out and total amount of time information. The total price of money or fees will be appear at the Total Price text box once the Calculate button been click.
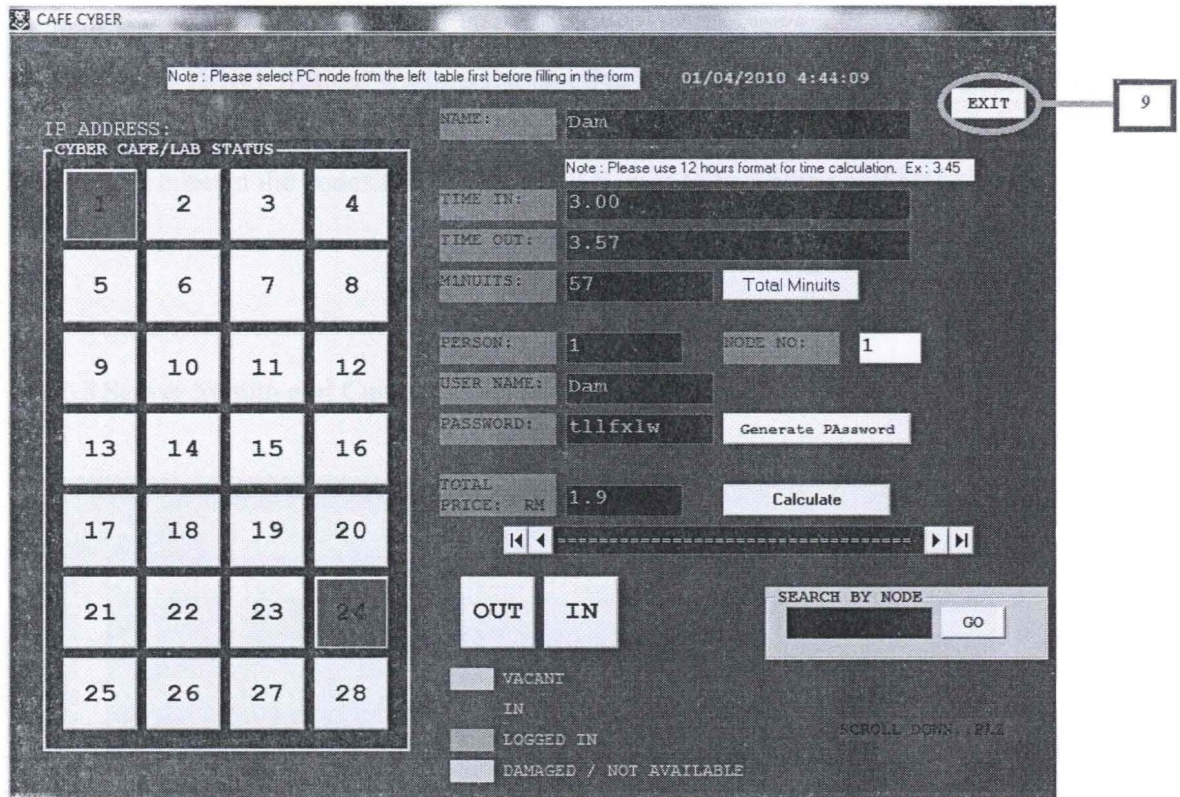
Figure 4.4.7: Main Administration Interface : Description 9 (Server)

Description 9 (EXIT Button) Coding

Private Sub cmdexit_Click()

On Error Resume Next

Unload Me

Unload frmaboutme

Unload frmbackupdata

Unload frmdatabase

Unload frminstruction

Unload frmlookup

Unload frmsplashscreen

Unload cafecyber

End

End

End Sub

Description 9 (EXIT Button) Coding Explanation

Button exit contain the codes that will lead all frames to be unload and close the system.
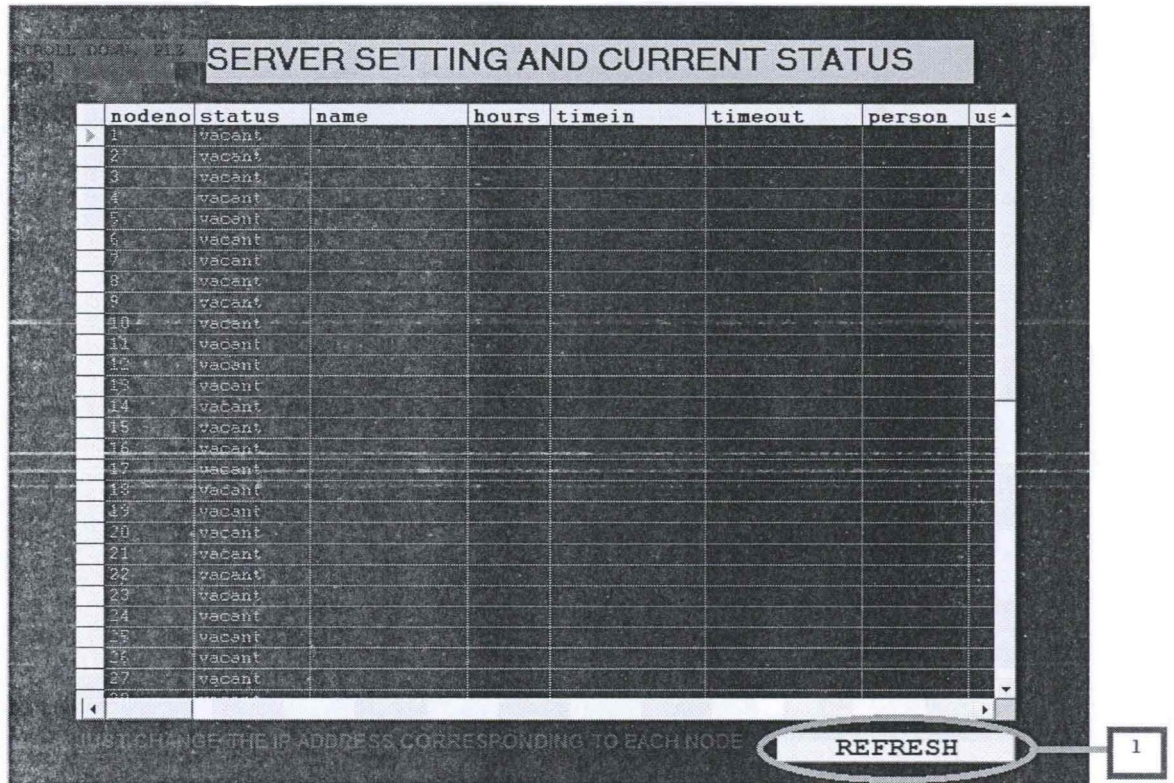
4.4.1.3 Server Setting and Current Status Interface

Figure 4.4.8: Server Setting and Current Status : Description 1 (Server)

Description 1 (REFRESH Button) Coding

Refresh

```
Private Sub cmdrefresh_Click()
Adodc1.Refresh
End Sub
```

Description 1 (REFRESH Button) Coding Explanation

The coding that been implied to this refresh button leads the table to update the latest content or data in the database and show the current status of the system.
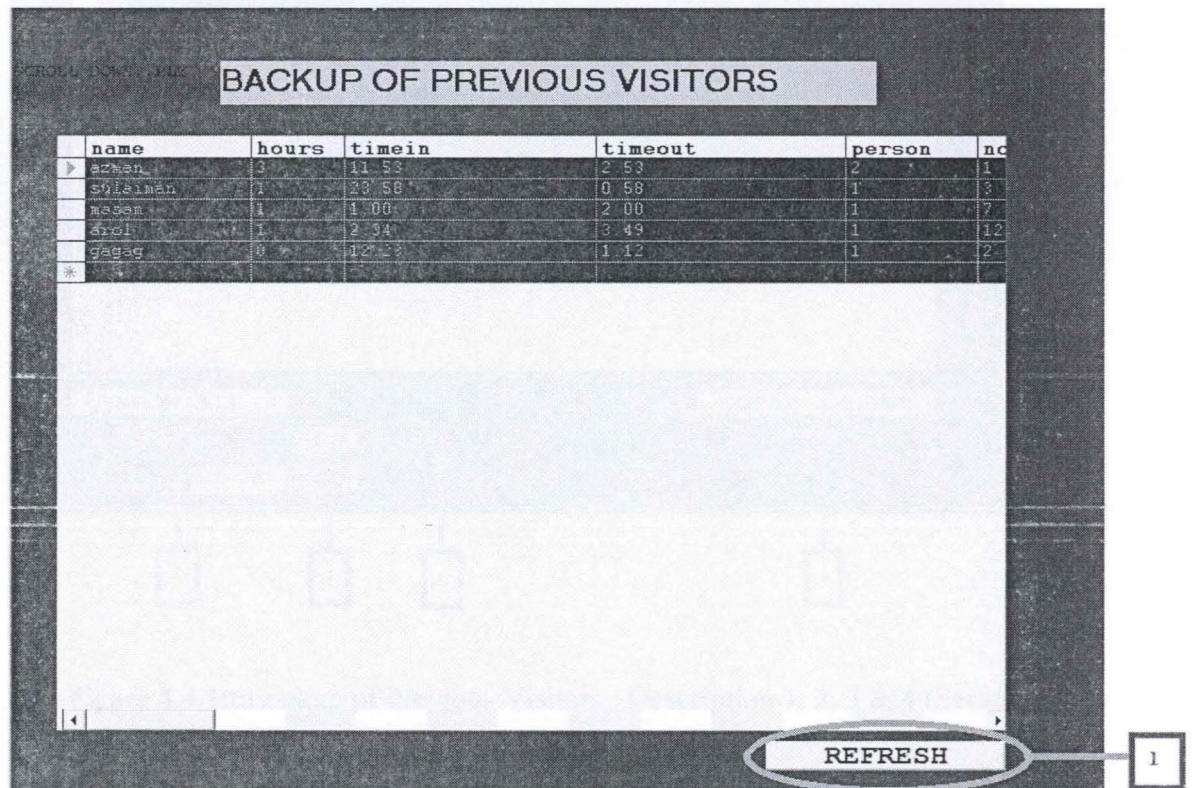
4.4.1.4 Backup Of Previous Visitors/Customers Interface

Figure 4.4.9: Backup of Previous Visitors : Description 1 (Server)

Description 1 (REFRESH Button) Coding

```
Private Sub cmdrefresh_Click()
Adodc1.Refresh
End Sub
```

Description 1 (REFRESH Button) Coding Explanation

The coding that been implied to this refresh button leads the table to update the latest content or data in the database and show the latest updated information.

4.4.1.5 Lookup Of Previous Visitors/Customer Interface

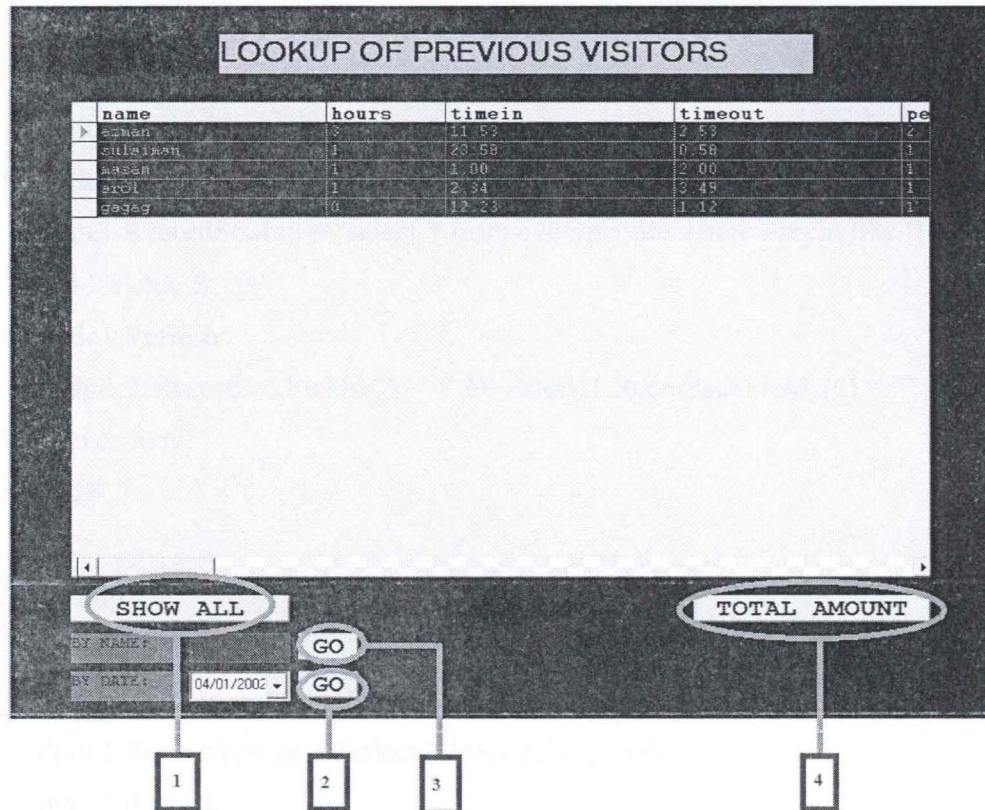**Figure 4.3.9:**Backup of Previous Visitors : Description 1

Figure 4.4.10: Lookup of Previous Visitors : Description 1, 2, 3 & 4 (Server)

Description 1 (SHOW ALL Button) Coding

```
Private Sub cmdshowall_Click()
Adodc1.RecordSource = "select * from cyberpeople"
Adodc1.Refresh
End Sub
```

Description 1 (SHOW ALL Button) Coding Explanation

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The coding that been implied to this Show All button react similar as the Refresh button which leads the table to update the latest content or data in the database and show the latest updated information.

Description 2 (GO Button) Coding

```
Private Sub Command1_Click()
On Error GoTo errhand
Adodc1.RecordSource = "select * from cyberpeople"
Adodc1.Refresh
Adodc1.RecordSource = "select * from cyberpeople where timein like '" &
date11.Value & "%'"
Adodc1.Refresh
If Adodc1.Recordset.Fields(0) = "" Or Adodc1.Recordset.Fields(0) = "" Then
GoTo errhand
End If

Exit Sub
errhand:
MsgBox "record not found"
Adodc1.RecordSource = "select * from cyberpeople"
Adodc1.Refresh
End Sub
```

Description 2 (GO Button) Coding Explanation

This go button codes will search the date entered in the text box and search through the database for the similar date. If the there is no match, the system will pop up the message box to inform user that record cannot be found. While, if the matched data were found, the table will display all information related to it.

Description 3 (GO Button) Coding

```
Private Sub cmdgo_Click()
```

On Error GoTo errhand

Adodc1.RecordSource = "select * from cyberpeople"

Adodc1.Refresh

Adodc1.RecordSource = "select * from cyberpeople where name like '" &

txtname.Text & "%'"

Adodc1.Refresh

If Adodc1.Recordset.Fields(0) = "" Or Adodc1.Recordset.Fields(0) = "" Then

GoTo errhand

End If

Exit Sub

errhand:

MsgBox "record not found"

Adodc1.RecordSource = "select * from cyberpeople"

Adodc1.Refresh

End Sub

Description 3 (GO Button) Coding Explanation

This go button codes will search the name entered in the text box and search through the database for the similar name. If the there is no match, the system will pop up the message box to inform user that record cannot be found. While, if the matched data were found, the table will display all information related to it.

Description 4 (Total Amount Button) Coding

Private Sub cmdtotalamt_Click()

On Error GoTo errhand

Adodc1.RecordSource = "select * from cyberpeople"

Adodc1.Refresh

Adodc1.RecordSource = "select sum(amount) from cyberpeople"

Adodc1.Refresh

If Adodc1.Recordset.Fields(0) = "" Then

GoTo errhand

End If

Exit Sub

errhand:

MsgBox "record not found"

Adodc1.RecordSource = "select * from cyberpeople"

Adodc1.Refresh

End Sub

Description 4 (Total Amount Button) Coding Explanation

The coding implied to the Total Amount button sum the entire amount of price that have been paid in the database and show the total financial that been achieve in the table.
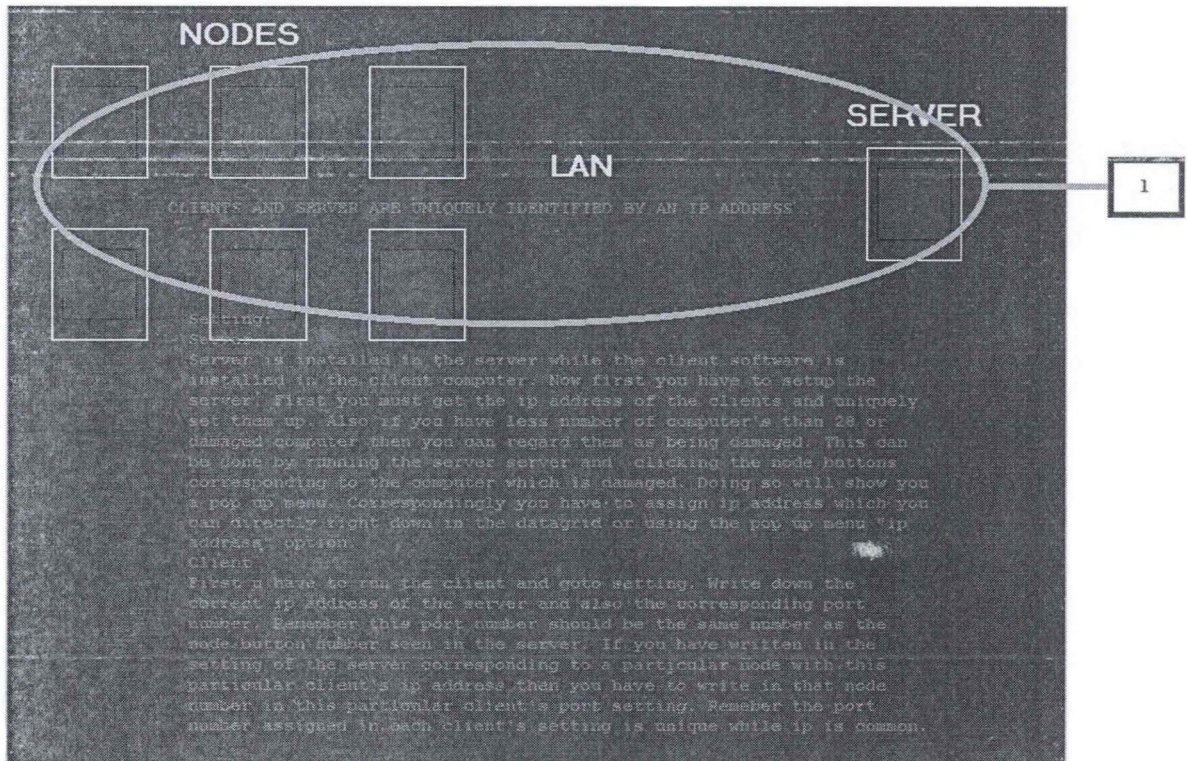
4.4.1.6 Help and Instruction Interface

Figure 4.4.11: Help and Instruction Interface: Description 1 (Server)

Help and Instruction Interface Coding

```
Private Sub Timer1_Timer()
Dim i As Integer
For i = 0 To Shape1.UBound
Shape1(i).BorderColor = vbRed
Next i


For i = 0 To Line1.UBound
Line1(i).BorderColor = vbWhite
Next i
End Sub


Private Sub Timer2_Timer()
Dim i As Integer
For i = 0 To Shape1.UBound
Shape1(i).BorderColor = vbWhite
Next i


For i = 0 To Line1.UBound
Line1(i).BorderColor = vbRed
Next i
End Sub
```

Help and Instruction Interface Coding Explanation

In this Help and Instruction Interface Coding, it will make the connection preview that to be blinking by using the timer coding besides setting the color that will change for the configured amount of time.

4.4.2 Customer Application (Client)

4.4.2.1 Splash Screen Interface


Figure 4.4.2.1: Splash Screen Interface: (Client)

Splash Screen Interface Coding

```
Private Sub Timer1_Timer()
If Picture1.Width >= 8295 Then
Timer1.Enabled = False
On Error Resume Next
Unload Me
frmclientnode.Visible = True
Else
Picture1.Width = Picture1.Width + 100
End If
End Sub
```

Splash Screen Interface Coding Explanation

The splash screen is only the pre-interface of the system. The coding do order and instruct the element in the Splash Screen frame to be unload or appear right just after the system initiating. To enter the main page of the system, just follow the instruction that have been state there and the main page will be shown up. The coding also to let user to enter the main page after clicking to the Splash Screen frame.

4.4.2.2 Customer Login Interface
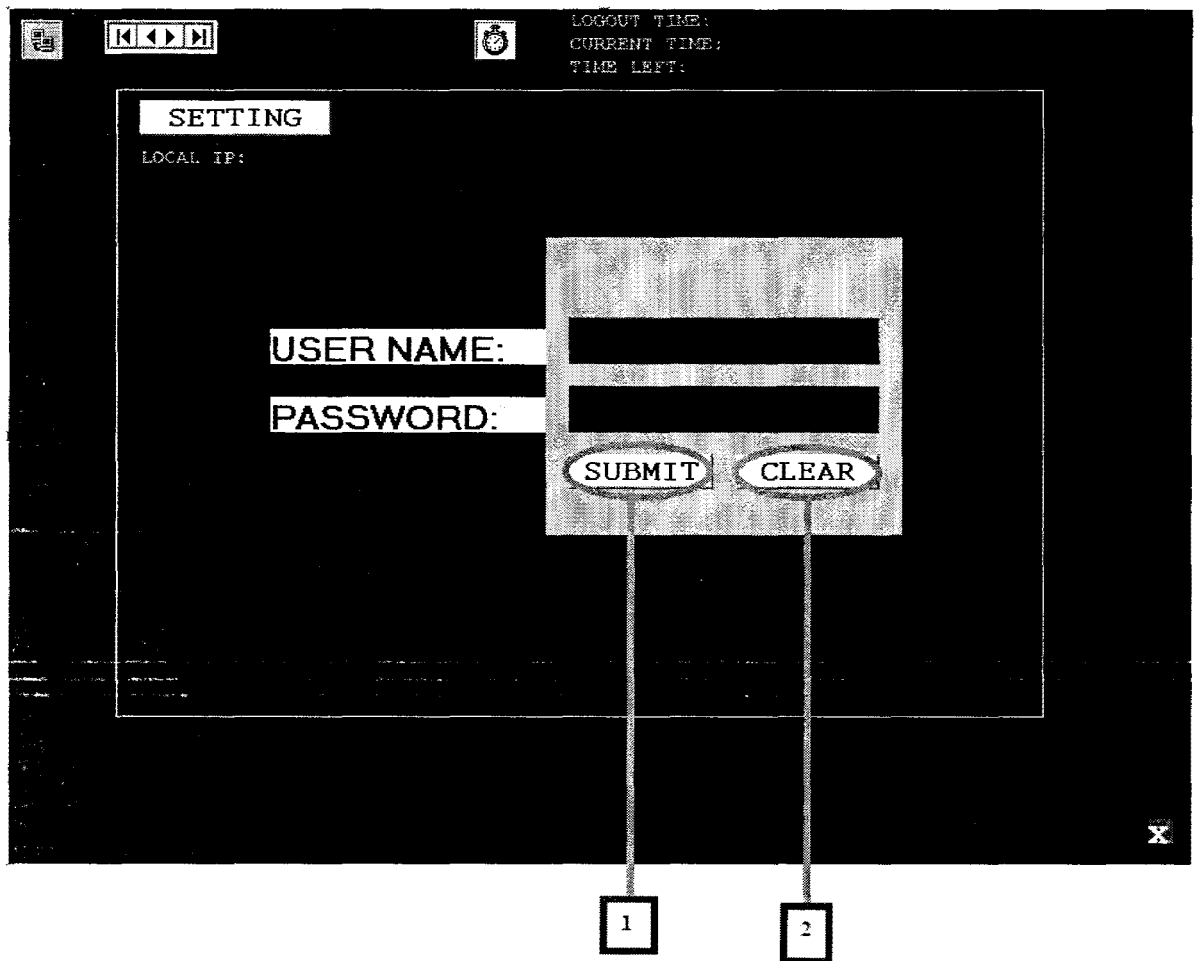
Figure 4.4.2.2: Customer Login Interface: Description 1 & 2 (Client)

Description 1 (SUBMIT Button) Coding

```
Private Sub cmdsubmit_Click()
On Error GoTo errorhand
If txtuname.Text = "" Or txtpname = "" Then
MsgBox "fill in the fields please"
```

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Exit Sub

End If

Dim connectiontext As String

Call Form_Load

DoEvents

connectiontext = ""

connectiontext = Trim(txtuname.Text)

connectiontext = connectiontext & "::" & txtpname.Text & Winsock1.RemotePort

Winsock1.SendData (connectiontext)

Exit Sub

errorhand:

MsgBox Err.Description

End Sub

Description 1 (SUBMIT Button) Coding Explanation

Coding in button submit will built checking procedure between the client and server to make sure the password and username that been entered are synchronize to get the permission to be able to enter the desktop view.

Description 2 (CLEAR Button) Coding

```
Private Sub cmdclear_Click()
txtuname.Text = ""
txtpname.Text = ""
End Sub
```
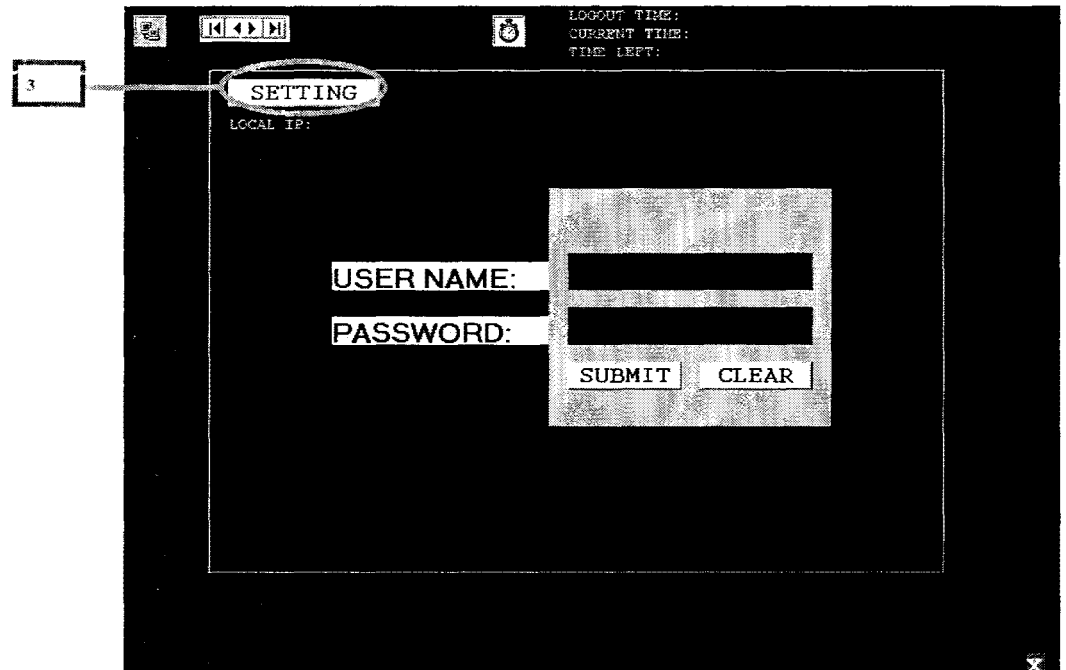
Description 2 (CLEAR Button) Coding Explanation

Coding in the Clear button reacting by clearing the form fields once the button clear been hit.

Figure 4.4.2.3: Customer Login Interface: Description 3 (Client)

Description 3 (SETTING Button) Coding

Private Sub changetime_Timer()

Dim hh As Integer

Dim mm As Integer

Dim ss As Integer

Dim sss As Long

On Error Resume Next

'current time

Label4.Caption = Now

'conversion in hh:mm:ss...

sss = DateDiff("s", CDate(Label4.Caption), CDate(Label3.Caption))

hh = Int(sss / 3600)

mm = Int((sss Mod 3600) / 60)

ss = Int((sss Mod 60) Mod 60)

lbltimeleft.Caption = hh & ":" & mm & ":" & ss

'when 10 minutes 10 seconds remain show the dialog..for extension

```
If lbltimeleft.Caption = "1:59:45" Then
frmalert.Visible = True
End If


If Label3.Caption = Label4.Caption Then
Winsock1.SendData "[cybersurfended]"
Label3.Caption = ""
For i = 0 To 8130
Me.Height = Me.Height + 1
Next i
End If
End Sub


Private Sub Form_Load()
frmclientnode.serverinformad.DatabaseName = App.Path & "\cybercafeclient1.mdb"


serverinformad.Refresh
On Error Resume Next
serverinformad.Recordset.MoveFirst
lblserverip.Caption = serverinformad.Recordset.Fields(0)
Winsock1.Close
Winsock1.RemoteHost = serverinformad.Recordset.Fields(0)
Winsock1.LocalPort = 11111
Winsock1.RemotePort = serverinformad.Recordset.Fields(1)
Winsock1.Bind Winsock1.LocalPort
lblyourip.Caption = Winsock1.LocalIP
End Sub


Private Sub Form_Unload(Cancel As Integer)
On Error Resume Next
Unload Me
Unload frmalert
Unload frmclientsetting
End End Sub
```

```
'end the program..
Private Sub lblcloseme_Click()
On Error Resume Next
Unload Me
Unload frmalert
Unload frmclientsetting
End
End Sub


Private Sub Winsock1_DataArrival(ByVal bytesTotal As Long)
Dim X As String
Dim i As Integer
Winsock1.GetData X, vbString
If Left(X, 9) = "[success]" Then
txtuname.Text = ""
txtpname.Text = ""
For i = 0 To 8130
Me.Height = Me.Height - 1
Next i
Label3.Caption = Mid(X, 10)
ElseIf Left(X, 18) = "[extensiongranted]" Then
Label3.Caption = Mid(X, 19)
End If
End Sub
Private Sub cmdsettings_Click()
frmclientsetting.Visible = True
End Sub
```

Description 3 (SETTING Button) Coding Explanation

This button contains coding that will call the Server Setting Interface to be appear
besides set connection by retrieving the server IP address allow the connection

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between the nodes to the server. Besides, it is also containing the code that connects to the client database.

4.4.2.3 Server Setting Interface
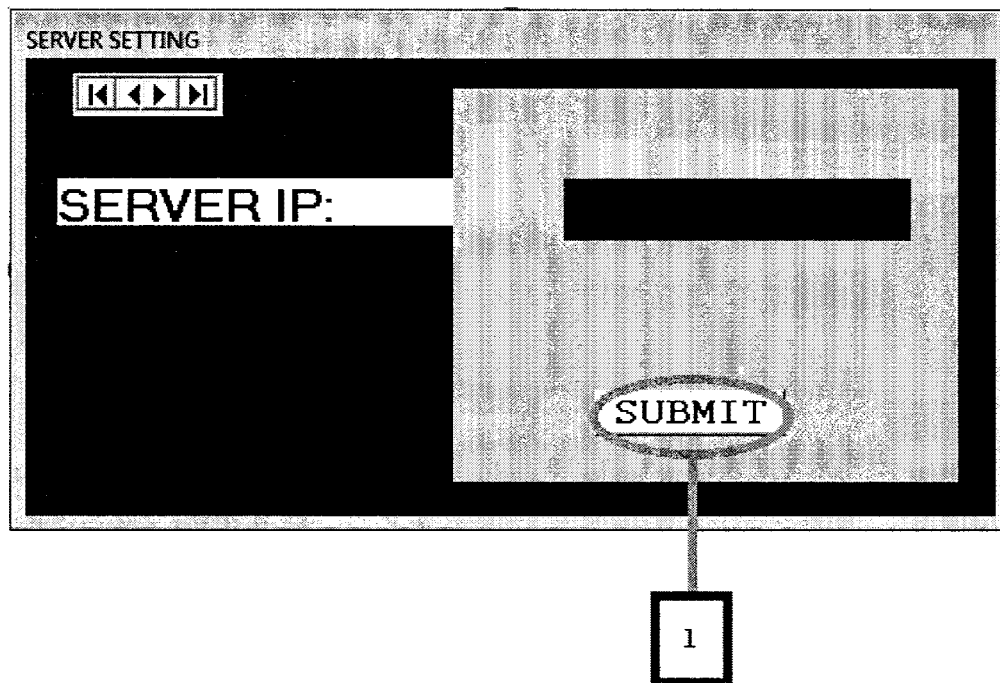

Figure 4.4.2.4: Server Setting Interface: Description 1 (Client)

Description 1 (SUBMIT Button) Coding

Private Sub Form_Deactivate()
On Error Resume Next
frmclientsetting.SetFocus
End Sub

Private Sub Form_Load()
On Error Resume Next
Me.serverinformad.DatabaseName = App.Path & "\cybercafeclient1.mdb"
End Sub

Private Sub cmdsubmit_Click()

```
If txtsearverip.Text = "" Or txtserverport.Text = "" Then

MsgBox "Fill in the details first"

Exit Sub

End If

On Error GoTo errhand

serverinformad.Refresh

serverinformad.Recordset.MoveFirst

serverinformad.Recordset.Edit

serverinformad.Recordset.Fields(0) = Trim(txtsearverip.Text)

serverinformad.Recordset.Fields(1) = Trim(txtserverport.Text)

serverinformad.Recordset.Update

MsgBox "Records updated"

frmclientsetting.Visible = False


Exit Sub

errhand:

MsgBox Err.Description


End Sub
```

Description 1 (SUBMIT Button) Coding Explanation

This button coded to be functioning as a port checker, create the allowance of the connection to the specific server IP address and update the database of the client to hold the IP address of the client.

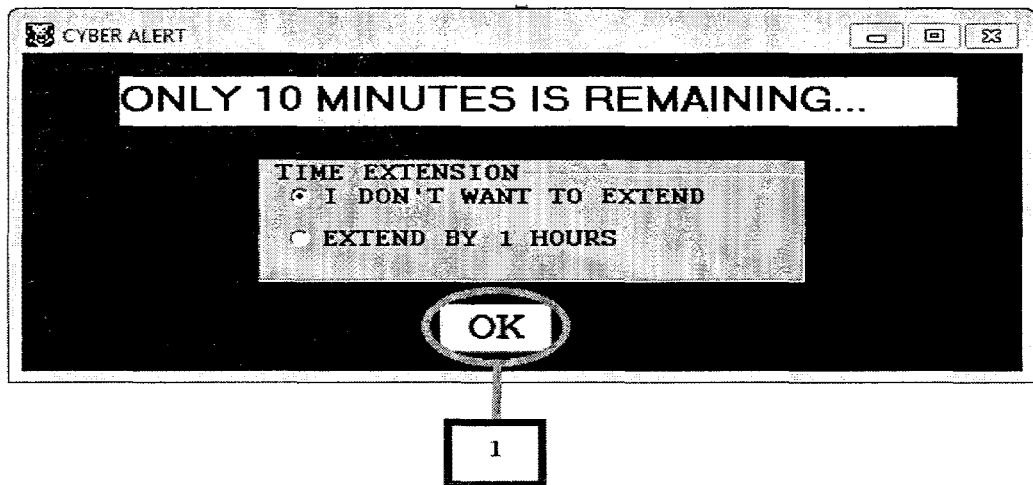#### 4.4.2.4 Cyber Alert Interface

Figure 4.4.2.5: Cyber Alert Interface: Description 1 (Client)

Description 1 (OK Button) Coding

```
Private Sub Form_Deactivate()
On Error Resume Next
Me.SetFocus
End Sub
Private Sub cmdok_Click()
If Option2.Value = True Then
frmclientnode.Winsock1.SendData ("[extension]")
Me.Visible = False
Else
Me.Visible = False
End If
End Sub
```

Description 1 (OK Button) Coding Explanation

Button OK in the interface contain the coding which connect to winsock timing control and allow user to add extension time to be add another one hour depends on user selection either the system will terminate the service.

CHAPTER V

RESULT AND DISCUSSION

5.1 Introduction

This chapter will devoted for the project output analysis and discussion on the features, advantages, disadvantages and future development on the project.

Cyber Café Management System is developed for customer that wants to rent the services of computer usage such as internet, LAN games, and any other software. The objective of the system basically to change some of the manual system to all computerize system. Cyber Café Management System also help the staff manage the computers and the internet connection that are using by the customers more efficient and safety way.

The system is designed to help customer to register in the system and check the status. Besides the administrator can also check the monthly payment record for the Cyber Café. The modules of the system have been figured out in order to keep the development of the system to be on track of the plan.

5.2 Expected Result

System has expected to run successful without error and capability to give the right output to the user. User can use the system with systematic and continues.

5.3 Result of The System

The system was define as a system without error and can perform the function in successfully. The result of system can be list as below.

Server Application

Figure 5.3.1: Splash Screen Interface (Server)

The splash screen will be appear once the system is start running. When the screen been click, it will then show the Main Administration interface.
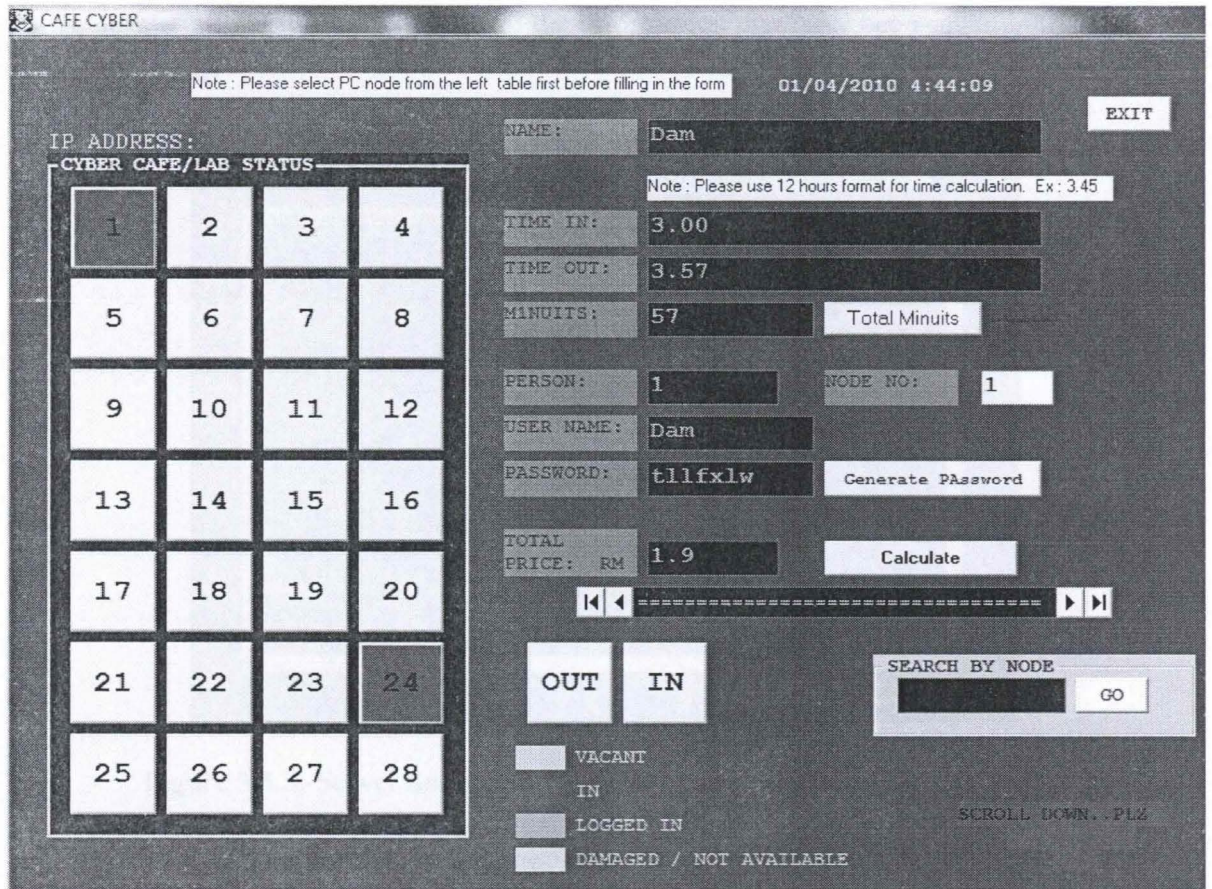
Figure 5.3.2: Main Administration Interface (Server)

Here is where the major functionality of the system was structured and build. This interface will be appearing the sub menus to be selected once the Cyber Cafe Seat Number or be clicked. After selecting the preferred sit, client information will be entered within the form field. Generate Password button work fluently by generating the password was clicked. Once the button IN been hit, the system will automatically will hold and save the information in the database. Admin can recheck the information of the current customers that are using the system by searching through the Searching by Node Function by entering the number of the node and click on the GO button. When the client willing to stop from using the service, the will inform the admin and the admin will fill in the time out, calculate total minuets of service usage time, and calculate the total price by clicking the Calculate button and the amount will appear in the Total Price text box. Button EXIT do functioning perfectly by unloading the entire interface and shut down the

system without interfere with all the information that have been saved in the database.

Figure 5.3.3: Server Setting and Current Status Interface (Server)

The refresh button will update the Server Setting and Current Status table with the current status of all nodes of client side of the application with the latest current information.

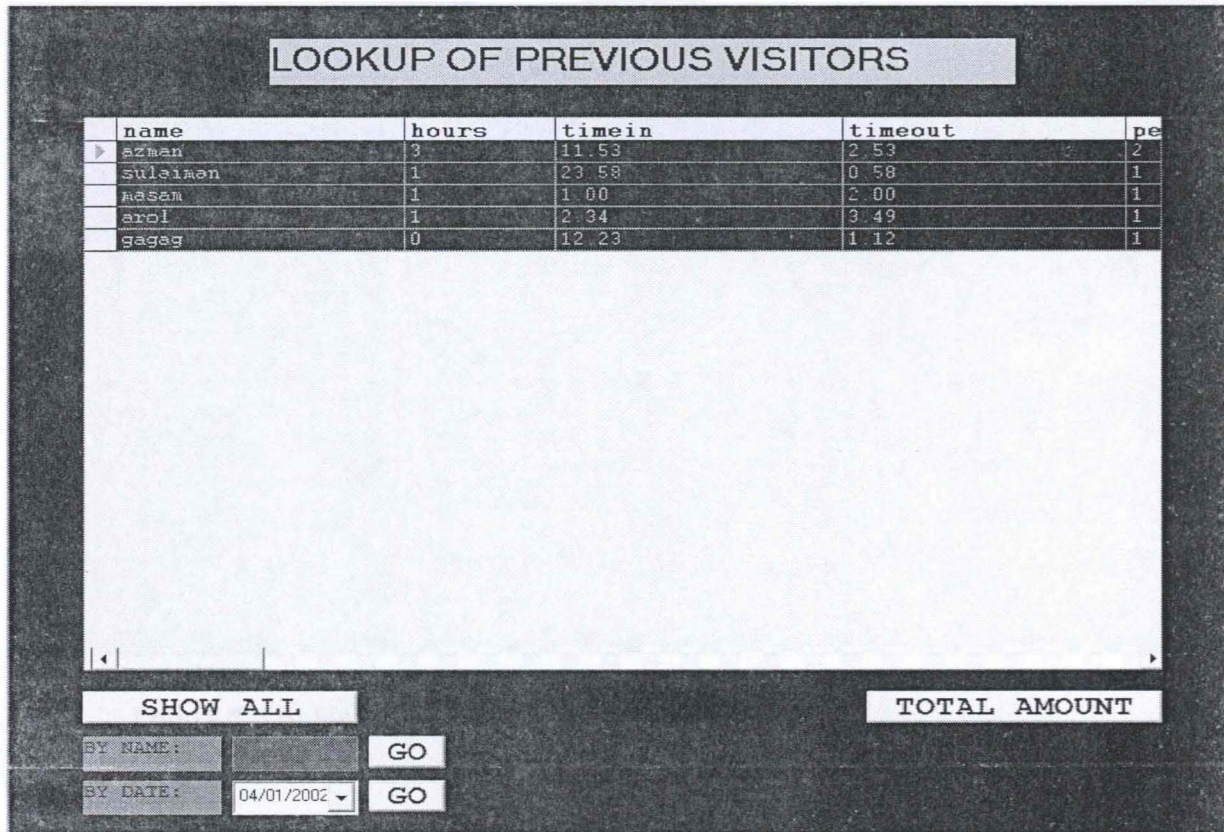**Figure 5.3.4:** Backup of Previous Visitors Interface (Server)

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The refresh button will update the interface table with the previous status of all nodes of client side of the application with the latest information saved in the database.

**Figure 5.3.5:** Lookup of Previous Visitors Interface (Server)

When the button SHOW ALL been click, it will update the interface table with previous status of all nodes of client side of the application with the latest information saved in the database. The GO button will search the previous customer information based on the date and the name of the customer that have been used the services. Total Amount button will sum up all the total amount of fees that paid by each of the previous customer inform the admin of the system the total amount of income for the certain date that been selected.
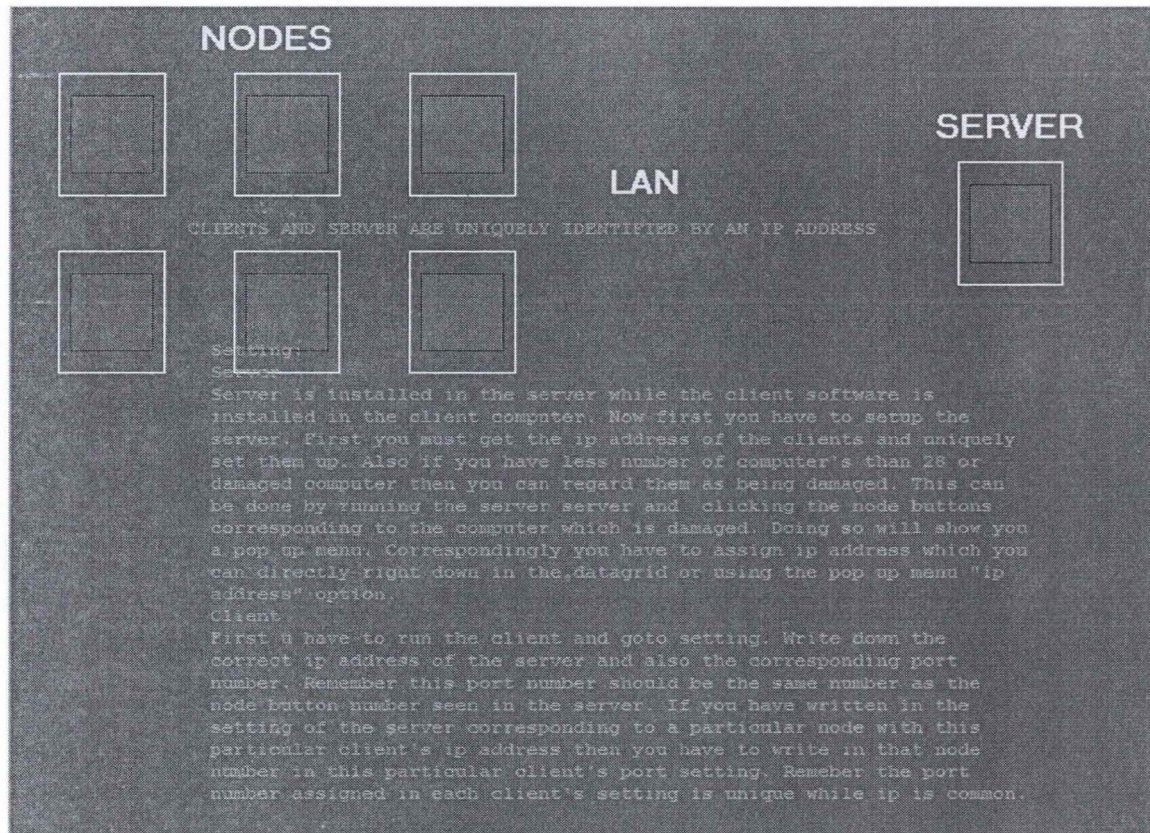
**Figure 5.3.6:** Help and Instruction Interface (Server)

This interface is just provide instructions for the admin on how to set up the system besides illustrate the proper structure of the network connection need to be configure in order to make sure the system interact properly.

Client Application
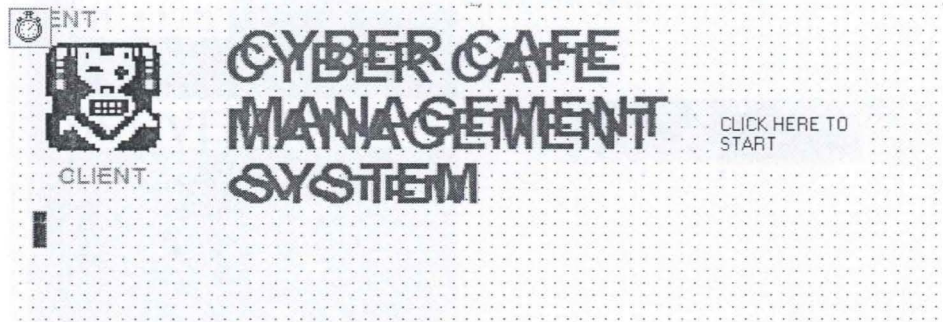
Figure 5.3.7: Splash Screen Interface (Client)

The splash screen will be appearing once the system is start running. When the screen been click, it will then show the Main Administration interface.
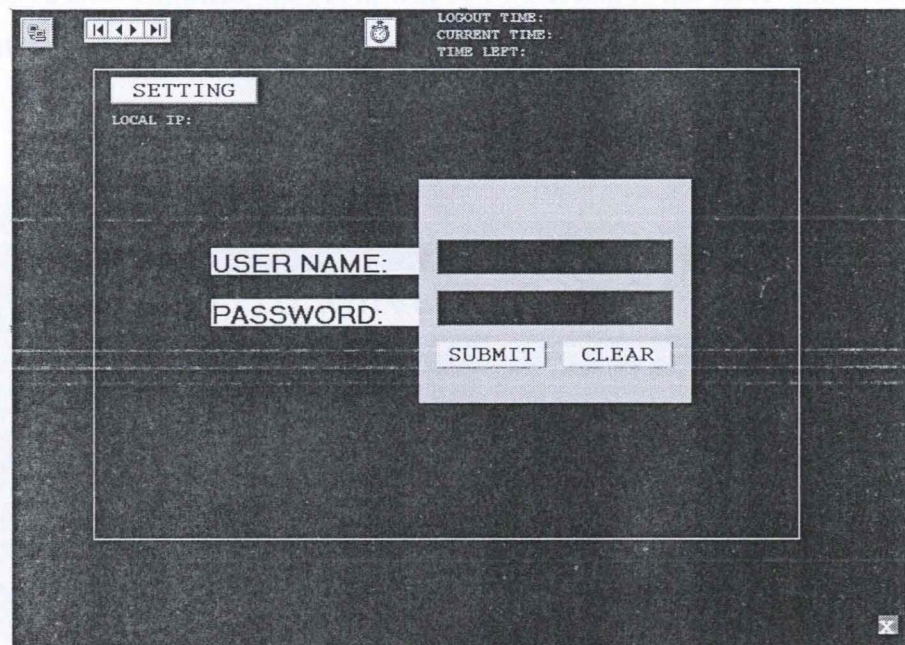
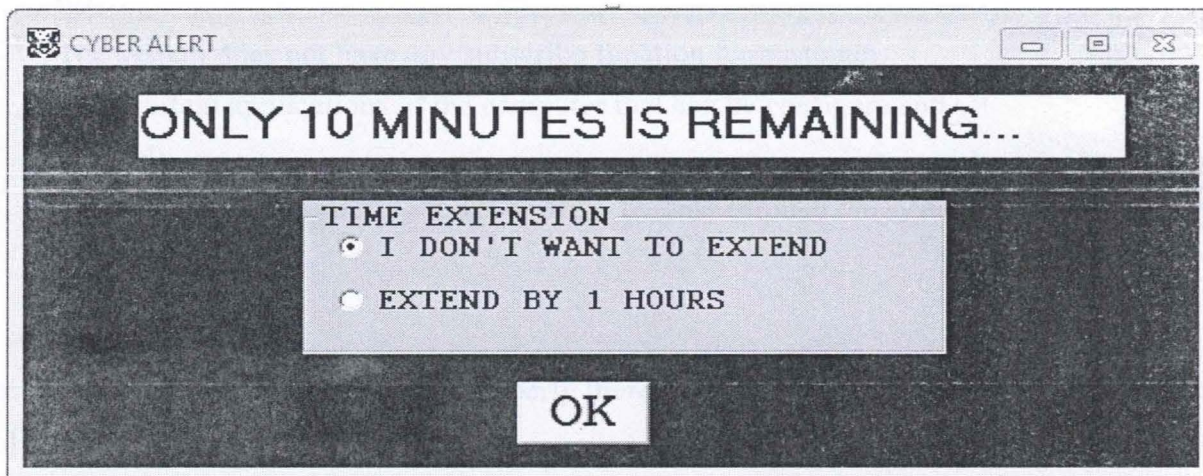**Figure 5.3.8:** Customer Login Interface (Client)

Customer Login interface do require the right username and password to allow the client side of the system enter the desktop view. When the wrong username or password been submitted, message box will appear to inform the customer for the error. Clear button will help clearing the entire field and setting button will brings the Server Setting Frame to be appearing.
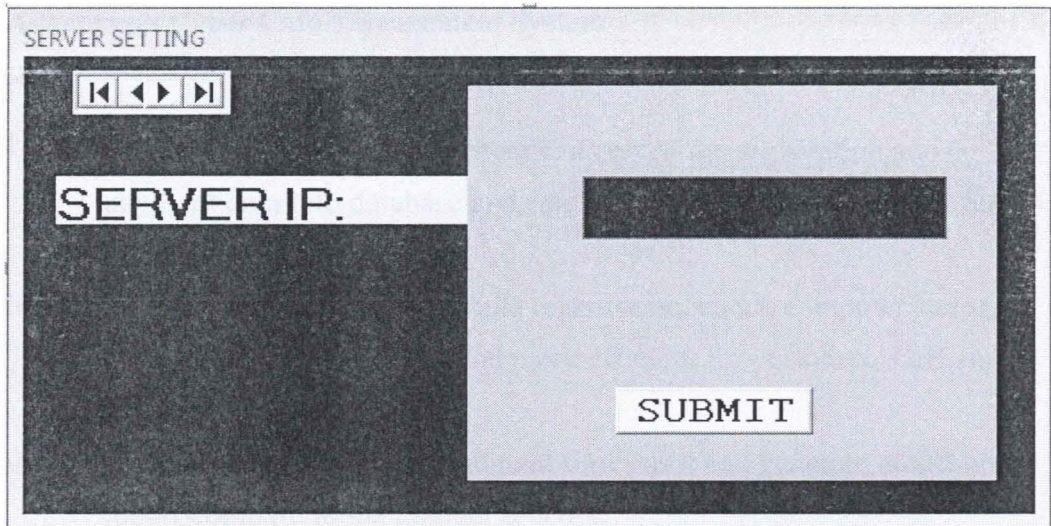
Figure 5.3.9: Server Setting Interface (Client)

This form request for Server IP address. Once the correct IP address been entered and submitted, the client will be connecting to the server monitoring system and the Customer Login interface will be reappear.

Figure 5.3.10: Server Alert Interface (Client)

The interface let the customer to be informed of the time left for using the system. Customer may choose either one of the option and the system do will react to the customer preferred respond.

5.4 Advantages Cyber Café Management System

i. Cyber Café management system can record the registration and payment data into database and can be viewed or access anytime and reduce the paper usage.

ii. The system is also able to make registration, check computer status, view report process easier and more efficient for customer, staff and administrator.

iii. CCMS also can save management times as it can generate monthly report compare to the manual process.

iv. CCMS offers security and systematic database for registration and payment.

5.5 Disadvantages Cyber Café Management System

i. The system only allow customer to use the services in specific limited due after paying the fee and when the time finish, the computer will be log off.

ii. The system does not have any subscribe function for customer.

iii. Only certain applications of the computer that can be configure and set remotely.

iv. No application of ordering foods or drink by only through the system

5.6 Assumption

In order to make sure this system running properly there are some assumptions need to be fulfill:

i. This system is running on only Windows NT or XP platform or window based computer.

ii. The computer or laptop is connected to LAN connection to able to surfing the internet.

iii. The computer requirement is match or higher than system specification requirement.

iv. The admin computer must be installed by the server system application.

v. The customer computers must be installed by the client system application.

5.7 Future Development of Cyber Café Management System

    i. The database design of the system still needs to be enhanced.

    ii. The interface design can be change to make the system more attractive and user friendly.

    iii. The functionality of the system should be added to be more usable and flexible in the future.

    iv. Should add customer account and forward access sessions among customers' accounts to make the system to be more feasible.

    v. Currency and date format are based on your computer regional setting.

    vi. Monitors the Bandwidth used by clients and warns the user of excess bandwidth usage.

    vii. Invoke or Switch on the client computers that were earlier connected to the server computer from the server program using the Wake on LAN feature

CHAPTER VI

CONCLUSION

6.1   Summary

A good planning is an important part in developing a system. It has to be done carefully. System Developing Life Cycle (SDLC) methodology has been chooses as it tracks from the starting point of the development. It is also a popular methodology being used in developing system. Furthermore, software tools and hardware that needed in developing the system is an important component too. It will determine how the system being develops to meet the requirement. Anyway there is lot more methodology in developing software system but the SDLC methodology is the most suitable for developing this application system.

Generally, these systems already attain the objective of the project. It's able to provide a systematic system and management for Cyber Cafe. The problem occur in develop this system is to find the error while compile the system. All the error of the system must be found to make the system work succeed. Then, others problem is to finish the system follow the schedule task. In developing this system, developer needs to follow the entire schedule task. So, the system will finish developed on their

time. But, it will be a big problem if developing process of the system not matches with the schedule task.

The system is actually success and it can be enhanced in the future by using other element that more powerful and complex.

Hopefully this system will help user in order to improve the management, especially on the payment and client nodes control. So the system will become more manageable and efficient. Finally I hope that this system can meet the expectation and can give a better system solution to develop and enhance Cyber Cafe Management System in the future.

6.2   Achieved Objective

All objectives stated in this thesis are archived. The objectives of the development of this application are; manages the availability of computers for the customers of the Cyber cafe through systematic application, help manager to generate the cumulative and total amount of payment for the certain day, and to prevent unregistered customer from accessing the services through the client system that required the valid username and password to awake the computer from idle mode.

This system do able to manages the availability of computers for the customers of the Cyber cafe through systematic application since it was coded to preview the overall view of each node status besides the manager can manage it himself of each current status for all the nodes to be available, unavailable, damage and also able to reassign the IP address of them for the case of any replacement of computer any else.

Cyber Cafe Management System helps the manager to generate the cumulative and total amount of payment for the certain day through the well structured database and real time calculation of the duration of the service usage.

For the client side of this system, it works by preventing unregistered customer from accessing the services through the client system that required the valid username and password to awake the computer from idle mode besides providing the exact time

left of using the service for the logged in customer, prompt user 10 minute before the system automatically log out and offer either want to extend another 1 hour or just terminate the service.

A system for Cyber Cafe management was developed. The system was running well and is capable of generating an optimize function.

6.3   Lesson Learned

Gain more knowledge in network programing using Winsock network control and UDP Network Protocol that can be implement to control the network. Besides learned a lot about VB6 application development tools and funtionality to construct a good application.

6.4   Project planning

Proper project planning is needed in order to successfully develop a high quality product. Without a good project planning, everything will become a mess. A good project planning and execution ensure the project finish on time and all due date is met.

6.5   Time management

Time management really plays a huge role in this project. Besides having to research and develop this project, there are others subjects that require a lot of attentions. Assignments and tests has become one major barrier in this project. Another major barrier in this project is the amount of official holiday during the development of this project

6.6   Conclusion

Cyber Cafe Management System is software for operating Internet Cafe, Cyber Cafe, Game Center, Gaming Cafe and PC rental Cafe shop .It has been designed for use in an Internet coffee shop, cyber cafe management, accounting, billing, although it can be used for intranet PC controlling. Cyber Cafe Management System is a real-time

way to manage the client machines via monitoring and locking in order to process PC rentals which includes the ability to fully control and charge for printing.

Besides that it also help payment processes to be quickly, efficient and improve the business. It is designed to be a great help for all cyber cafe owners, operators, and customers. It offers secure access to client computers and grants access that can be charged per use or on a time schedule.

Hopefully, this network application meets the user expectations and can give a better system solution to develop and enhance the Cyber Café Management System in the future thus to provide and help user to manage and monitor their cyber café in more systematic and wisely.

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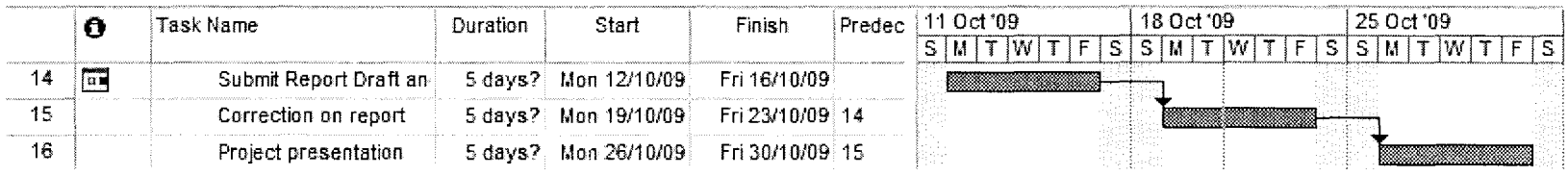
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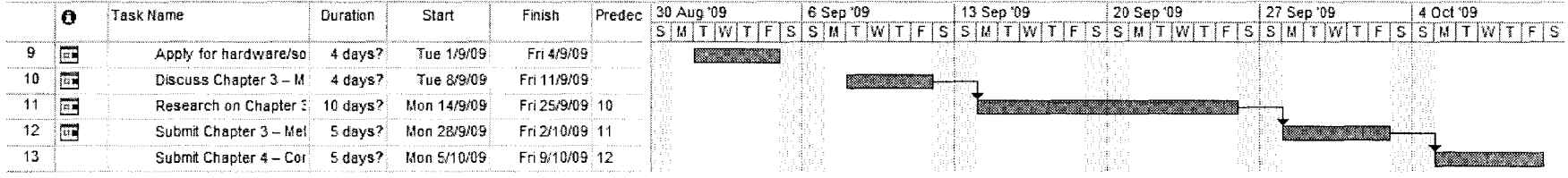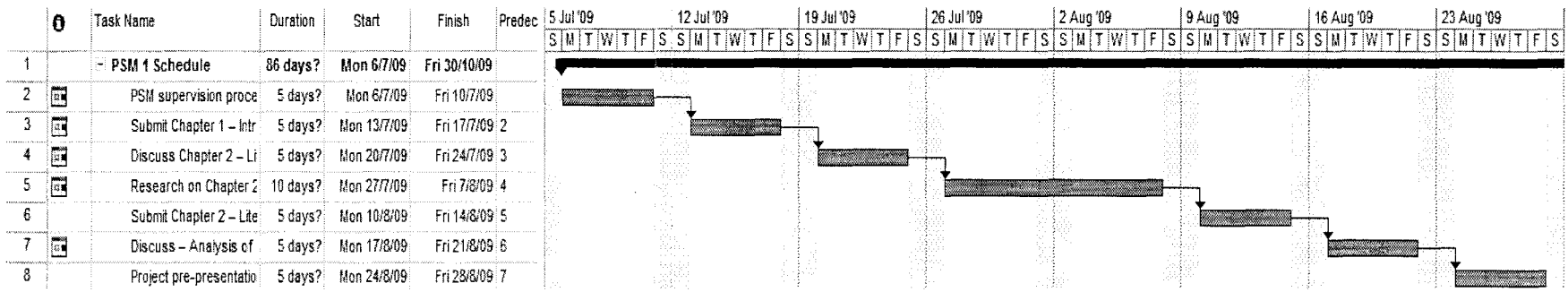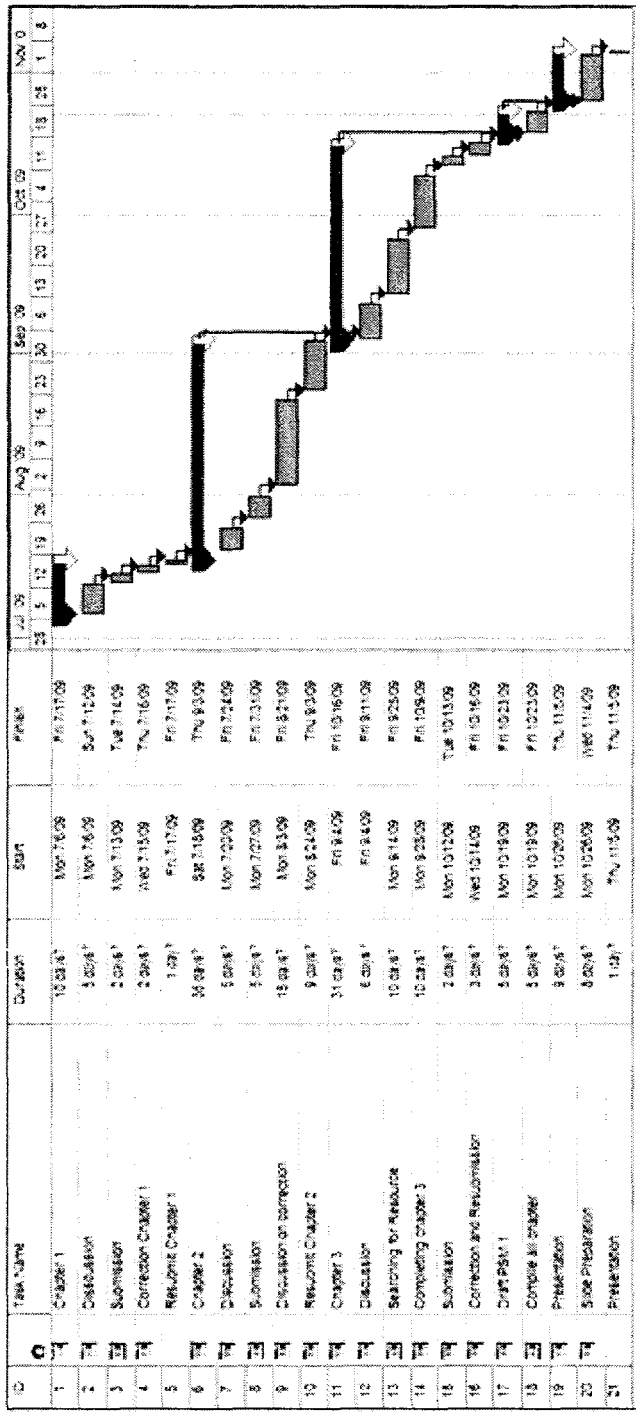
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APPENDIX A

(Gantt chart)

	❶	Task Name	Duration	Start	Finish	Predec
1		− PSM 1 Schedule	86 days?	Mon 6/7/09	Fri 30/10/09	
2		PSM supervision proce	5 days?	Mon 6/7/09	Fri 10/7/09	
3		Submit Chapter 1 – Intr	5 days?	Mon 13/7/09	Fri 17/7/09	2
4		Discuss Chapter 2 – Li	5 days?	Mon 20/7/09	Fri 24/7/09	3
5		Research on Chapter 2	10 days?	Mon 27/7/09	Fri 7/8/09	4
6		Submit Chapter 2 – Lite	5 days?	Mon 10/8/09	Fri 14/8/09	5
7		Discuss – Analysis of	5 days?	Mon 17/8/09	Fri 21/8/09	6
8		Project pre-presentatio	5 days?	Mon 24/8/09	Fri 28/8/09	7

	❶	Task Name	Duration	Start	Finish	Predec
9		Apply for hardware/so	4 days?	Tue 1/9/09	Fri 4/9/09	
10		Discuss Chapter 3 – M	4 days?	Tue 8/9/09	Fri 11/9/09	
11		Research on Chapter 3	10 days?	Mon 14/9/09	Fri 25/9/09	10
12		Submit Chapter 3 – Met	5 days?	Mon 28/9/09	Fri 2/10/09	11
13		Submit Chapter 4 – Cor	5 days?	Mon 5/10/09	Fri 9/10/09	12

	❶	Task Name	Duration	Start	Finish	Predec
14		Submit Report Draft an	5 days?	Mon 12/10/09	Fri 16/10/09	
15		Correction on report	5 days?	Mon 19/10/09	Fri 23/10/09	14
16		Project presentation	5 days?	Mon 26/10/09	Fri 30/10/09	15

APPENDIX B

(Database Design)

Database Design for Cyber Café Management System

Admin_login table

Field Name	Data Type	Constraint
Name	VARCHAR	
Address	VARCHAR	
Sex	VARCHAR	
IC	INT	PK
Age	INT	
Place	VARCHAR	
Citizen	VARCHAR	
Telephone	INT	
Headphone	INT	

Payment table

Field Name	Data Type	Constraint
Date	DATE	
Month	VARCHAR	
Goods	VARCHAR	
Quantity	INT	
Payment	FLOAT	

Inventory table

Field Name	Data Type	Constraint
Date	DATE	
Month	VARCHAR	
Goods	VARCHAR	
Quantity_in	INT	
Quantity_out	INT	
Income_in	FLOAT	
Income_out	FLOAT	

APPENDIX C

(Sequence Diagram)

Sequence diagram for Cyber Café Management System]
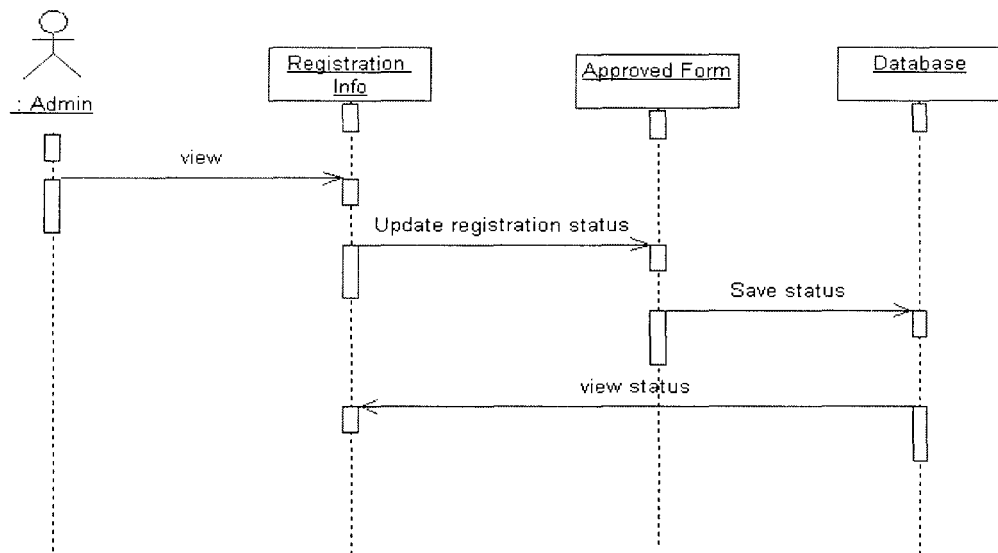
Diagram C1 Sequence Diagram for Approve login registration
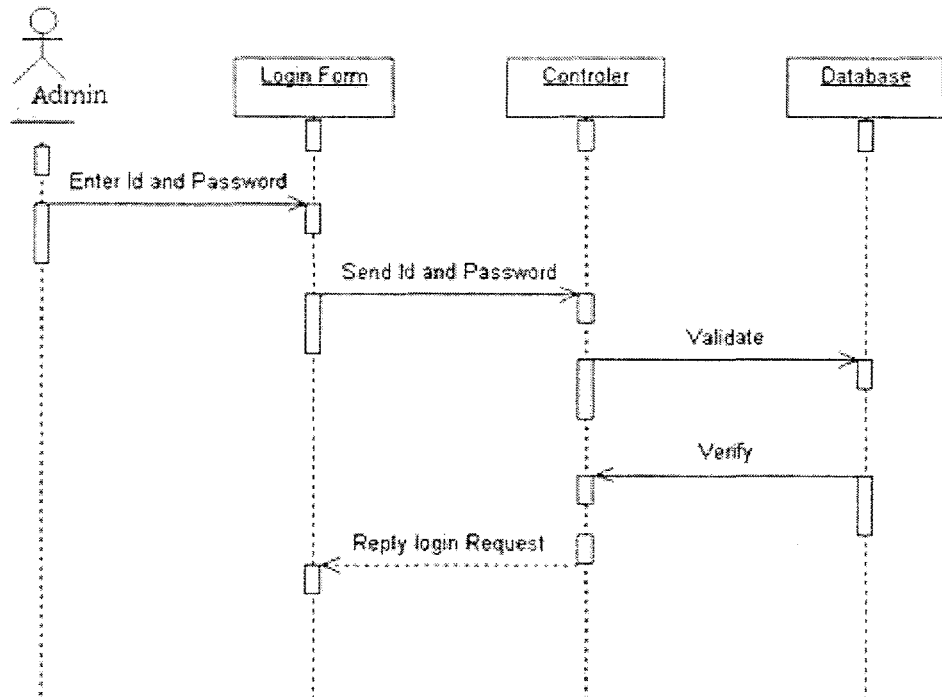
Diagram C2 Sequence Diagram for Administrator login.
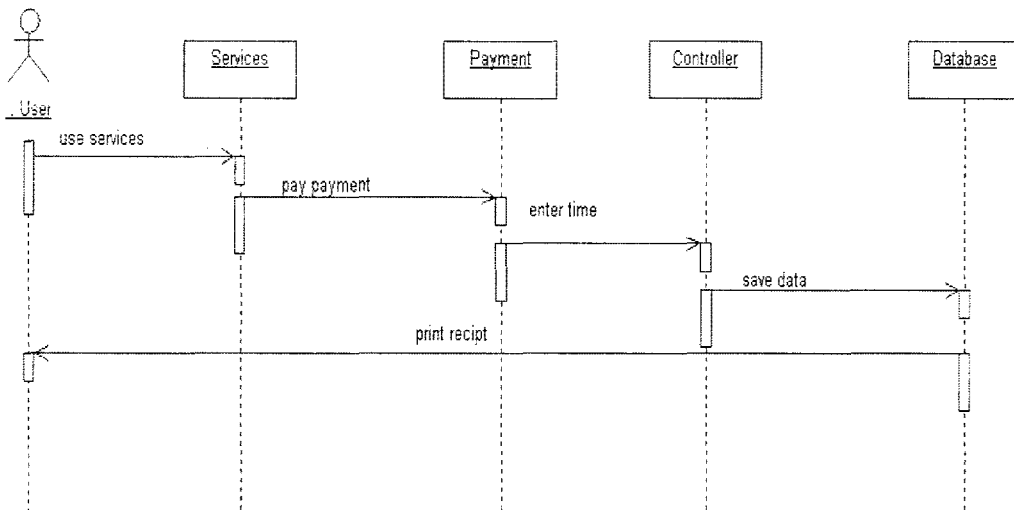
Diagram C3 Sequence Diagram for user using services
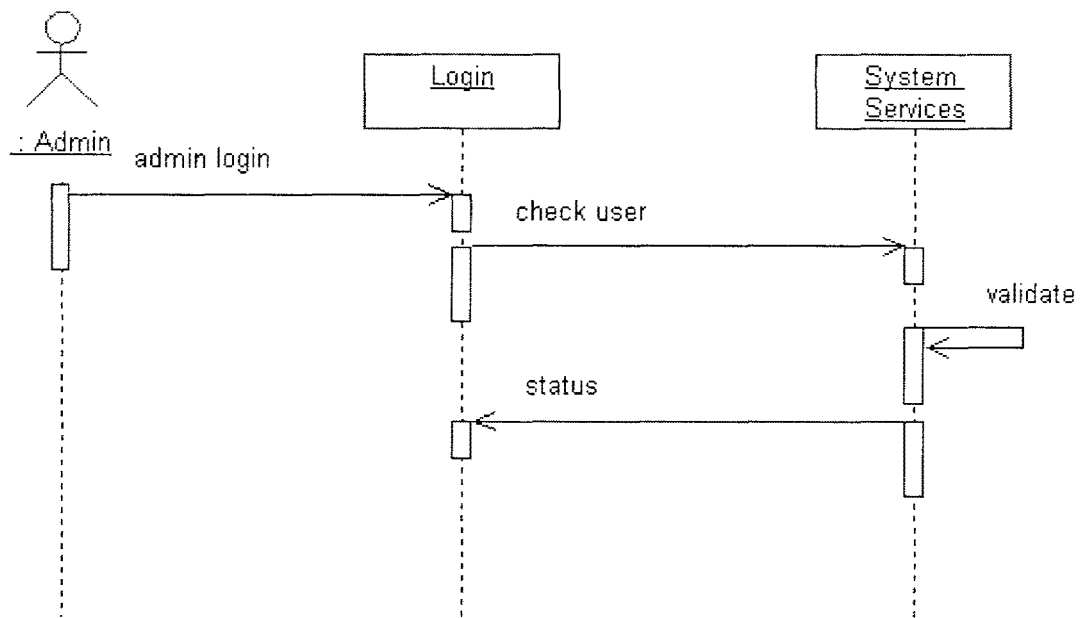
Diagram C4 Sequence Diagram for administrator using system application
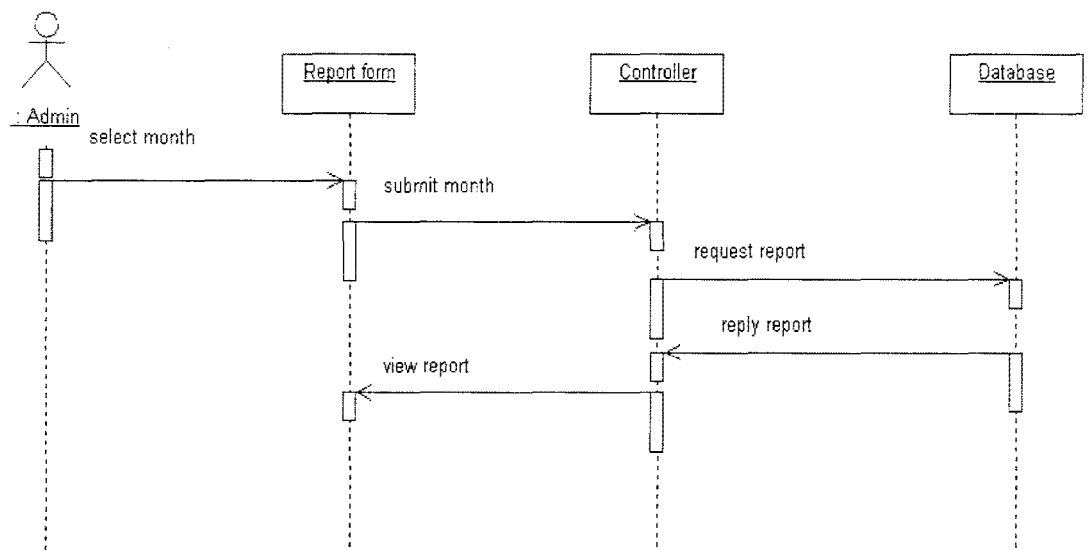
Diagram C5 Sequence Diagram for administrator checking the monthly report

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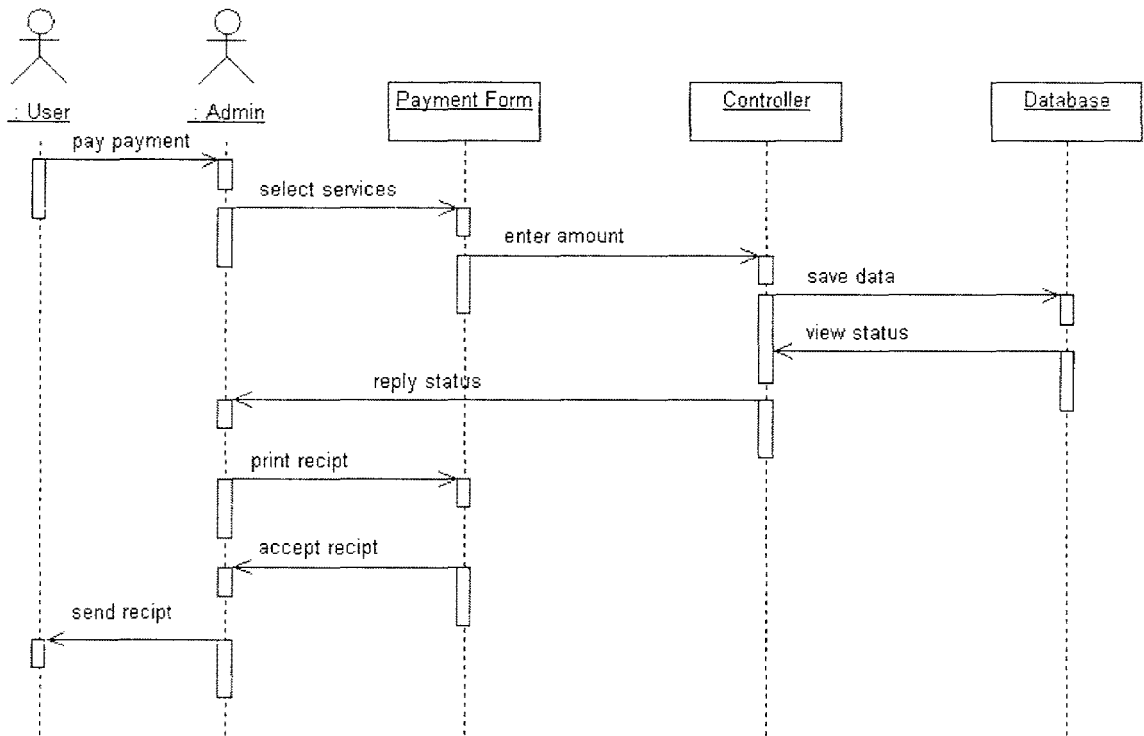
Diagram C6 Sequence Diagram for payment flow

Class Diagram for Cyber Café Management System
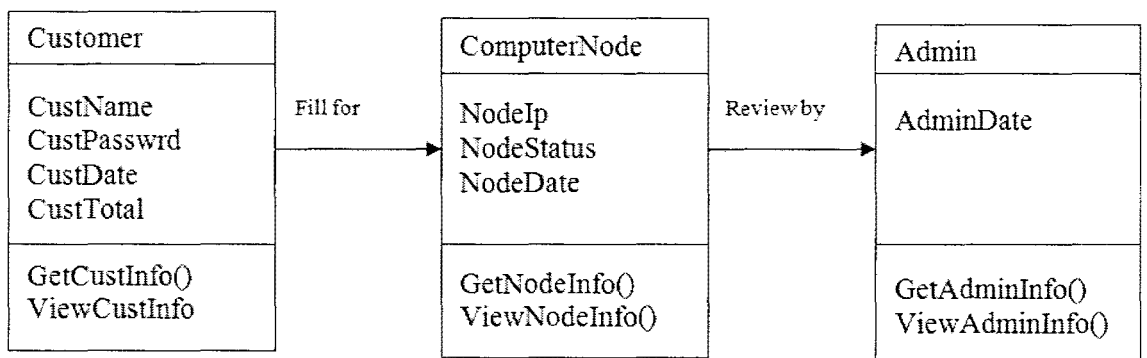
APPENDIX D

(System Interface)

Server Application

Interface D1: Main Administration Interface

Interface D2: Server Setting and Current Status Interface

BACKUP OF PREVIOUS VISITORS

name	hours	timein	timeout	person	nc
azman	3	11.53	2.53	2	1
sulaiman	1	23.53	0.53	1	3
hasan	1	1.00	2.00	1	7
arol	1	2.34	3.49	1	12
gagag	0	12.23	1.12	1	2

REFRESH

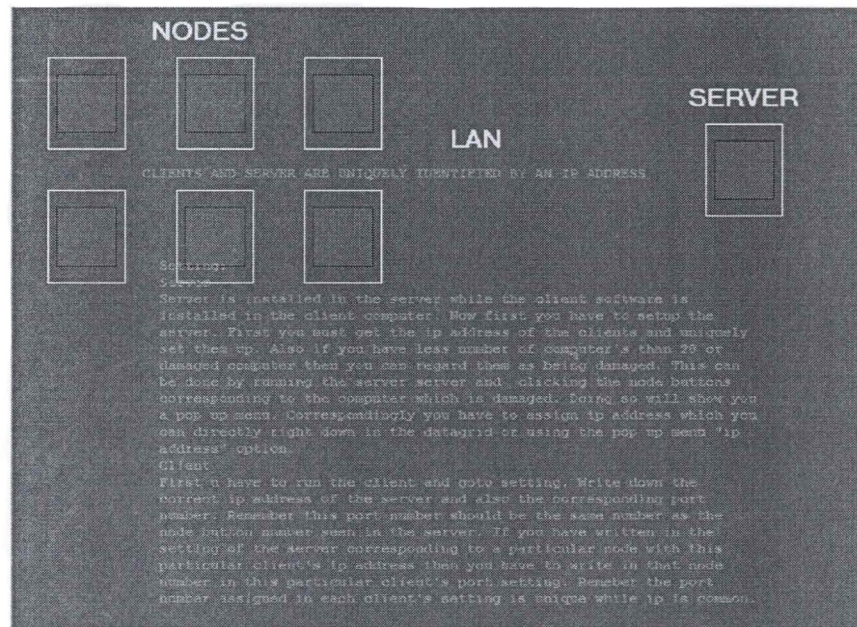Interface D3: Backup of Previous Visitors Interface

LOOKUP OF PREVIOUS VISITORS

name	hours	timein	timeout	pe
azman	3	11.53	2.53	2
sulaiman	1	23.58	0.58	1
hasam	1	1.00	2.00	1
arol	1	2.34	3.49	1
gagag	0	12.23	1.12	1

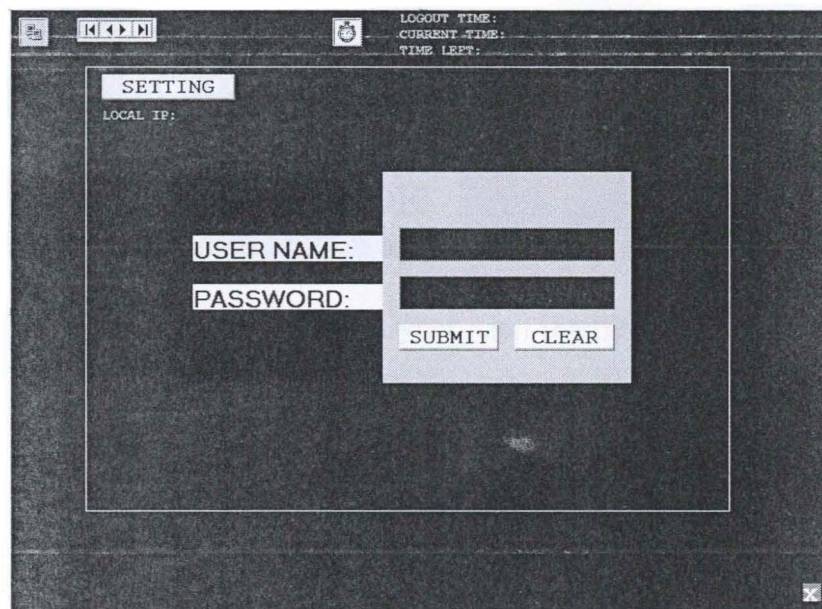SHOW ALL   TOTAL AMOUNT

BY NAME: GO

BY DATE: 04/01/2002 ▾ GO

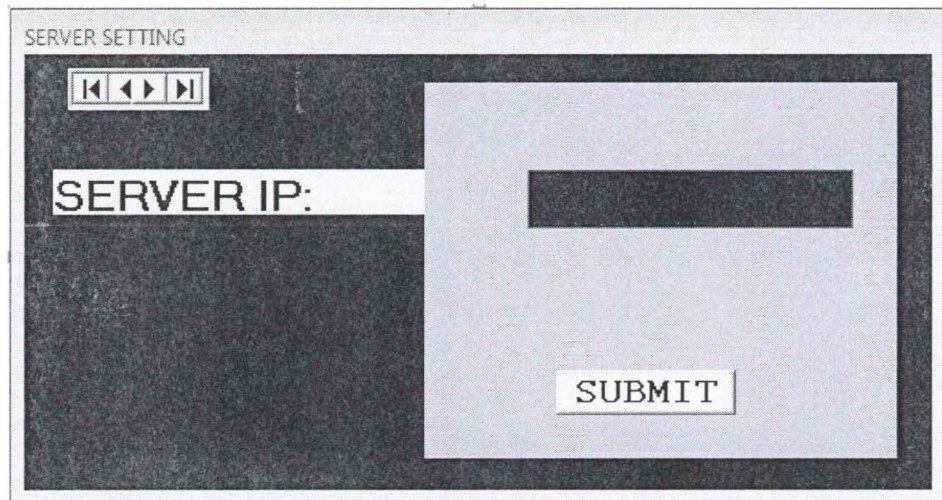122

Interface D4: Lookup for Previous Visitors Interface

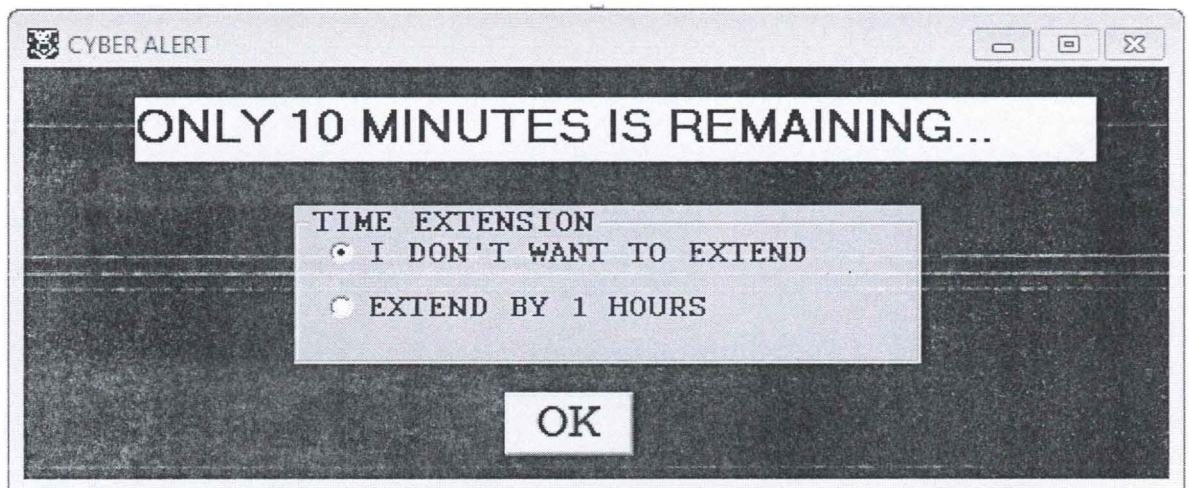Interface D5: Help and Instruction Interface

Client Application

Interface D6: Customer Login Interface

Interface D7: Server Setting Interface

Interface D8: Cyber Alert Interface

CHAPTER I

INTRODUCTION

1.1   PROJECT BACKGROUND

Internet cafes are increasingly becoming popular and the number of computers in one Internet cafe is elevating day by day. These cafes offer Internet services, gaming console, printing and drinks and foods also. With the increase in demand, management of these Internet cafes becomes an issue and headache for most of the cafe managers.

Cyber Cafe Management System is software for operating Internet Cafe, Cyber Cafe, Game Center, Gaming Cafe and PC rental Cafe shop .It has been designed for use in an Internet coffee shop, cyber cafe management, accounting, billing, although it can be used for intranet PC controlling. Cyber Cafe Management System is an real-time way to manage the client machines via monitoring and locking in order to process PC rentals which includes the ability to fully control and charge for printing.

Besides that it also help payment processes to be quickly, efficient and improve the business. It is designed to be a great help for all cyber cafe owners, operators, and customers. It offers secure access to client computers and grants access that can be charged per use or on a time schedule.

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1.2 OBJECTIVES

Cyber Cafe Management System offers convenient manageability with no wastage of time. It assists the company to keep clean and steady systems in a network setting. The objectives of the development of this application are:

1.3 PROBLEM STATEMENT

Internet cafes are increasingly becoming popular and the number of computers in one cyber cafe is elevating day by day and lots of issues are also being arisen. Some of the problems that been recognizing for managing this cyber business are:

1. The reason why any computers in cyber-cafes is are bad is not farfetched; it's basically the users of the computers. This brings problems to the manager since there are a lot of computer to be monitor to prevent many more destruction besides have to repair the damage computers.
2. Some irresponsible customers do cheat to avoid paying the service fee and this will bring financial lost for the cyber café.
3. Unsystematic paying system may bring dissatisfactory to the customer.

1.3 PROBLEM STATEMENT

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4. The reason why any computers in cyber-cafes is are bad is not farfetched; it's basically the users of the computers. This brings problems to the manager since there are a lot of computer to be monitor to prevent many more destruction besides have to repair the damage computers.
5. Some irresponsible customers do cheat to avoid paying the service fee and this will bring financial lost for the cyber café.
6. Unsystematic paying system may bring dissatisfactory to the customer.

1.4 SCOPE

The developments of this application do relate both Top-Down Network Design and System Development Life Cycle as this is a network management application. For the scopes of this system, they are all based on the objectives which are:

1. The manager is the administrator of the network which has the authority to make any changes to the network.
2. The manager computer will be the server while the other computers function as clients.
3. Once the due if the internet service that been book finish, the computer will automatically lock and customer need to pay to continue using the service.
4. The server can check which computers are available for the customers and able to trace which computer are disconnect from the internet.

1.5 TESIS ORGANIZATION

This thesis consists of 6 chapters. Chapter 1 will discuss about the Introduction to the System. These first chapters briefly explain about the objective of the system, problem statement and project scopes. Chapter 2 and 3 are about the Literature Review and Methodology of the project. Chapter 2 and 3 will discuss about the methods that will be used, elaborating the sources from the research, and deciding the best tools that will be used to build the system. Chapter 4, Implementation; are about the documentation of the processes during the development of the system, including any modification that been plan and made. While the last, Chapter 5 Result and Discussion and Chapter 6 Conclusion. Chapter 5 will explain about the result that have collected from the analysis and tests of the system along with the constraints and suggestion to enhance the system performance. Conclusion and overall summary of the system, data, methodology, implementation, and the suggestions are in the matter of the discussion on of the chapter 6.