CYBER CAFE MANAGEMENT SYSTEM

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SESI PENGAJIAN: 2014/2015

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"I hereby declare that I have read this report and in my opinion this report is sufficient in terms of scope and quality for the award of the Degree in Computer Science (Software Engineering)"

Signature : .....

Supervisor : Mr. Wan Muhammad Syahrir Bin Wan Hussin

Date : 09/01/2015

DECLARATION

I declare that this report entitled "Cyber Cafe Management System" is the result of my own research except as cited in the references. The report has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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ABSTRACT

Cyber Cafe Management System for Perbadanan Perpustakaan Awam Selangor (PPAS) is a management system to replace the manual registration system using paper form that are currently use. This system can record all the user information for the Cyber Cafe computer usage such as user's name, date and time, and floor. This sytem will include the PC monitoring system.

This report consists of six (6) parts. Chapter 1 is the introduction to the project. In this part contain introduction, problem statement, objective, existing system reviews, current system and limitation and report organization. Chapter 2 is the Software Requirement Specification (SRS). In this part contain product description, interface requirements, software product features, and requirement traceability. Chapter 3 is the Software Design Document (SDD). In this part contain system overview, system states and modes, system design description, and database design. Chapter 4 presents the implementation of process that involved during development of this system.Chapter 5 presents the result obtained from the implementation phase. The constraints of system also will be discussed in this chapter. Part 6 presents the overall conclusions of the work presented in this study whether it can achieve the goal of this project.

ABSTRAK

Cyber Cafe Sistem Pengurusan untuk Perbadanan Perpustakaan Awam Selangor (PPAS) adalah sebuah sistem pengurusan untuk menggantikan sistem pendaftaran manual menggunakan borang kertas yang kini digunakan. Sistem ini boleh merakam semua maklumat pengguna bagi penggunaan komputer Cyber Cafe seperti nama, tarikh pengguna dan masa, dan lantai. Sytem Ini termasuk sistem pemantauan PC.

Laporan ini terdiri daripada enam (6) bahagian. Bab 1 merupakan pengenalan kepada projek. Dalam bahagian ini mengandungi pengenalan, pernyataan masalah, objektif, ulasan sistem sedia ada, sistem semasa dan had dan organisasi laporan. Bab 2 adalah Spesifikasi Keperluan Perisian (SRS). Dalam bahagian ini mengandungi keterangan produk, keperluan antara muka, ciri-ciri produk perisian, dan keperluan pengesanan. Bab 3 adalah Design Dokumen Perisian (SDD). Dalam bahagian ini mengandungi gambaran keseluruhan sistem, keadaan sistem dan mod, penerangan tentang reka bentuk sistem, dan reka bentuk pangkalan data. Bab 4 membentangkan pelaksanaan proses yang terlibat dalam pembangunan system. Bab 5 membentangkan hasil yang diperolehi dari fasa pelaksanaan. Kekangan sistem juga akan dibincangkan dalam bab ini. Bab 6 membentangkan kesimpulan keseluruhan kerja yang dibentangkan dalam kajian ini sama ada ia boleh mencapai matlamat projek ini.

TABLE OF CONTENTS

TABLE OF FIGURES

LIST OF TABLE

LIST OF ACRONYMS / ABBREVIATIONS / GLOSSARY

ABBREVIATIONS	DEFINITIONS
CCMS	Cyber Cafe Management System
PC	Personal Computer
SDD	Software Design Document
SRS	Software Requirement Specification
PPAS	Perbadanan Perpustakaan Awam Selangor

CHAPTER 1

INTRODUCTION

1.1. Introduction

Cyber Cafe Management System for Perbadanan Perpustakaan Awam Selangor (PPAS) is a management system to replace the manual registration system using paper form that are currently use. This system can record all the user information for the Cyber Cafe computer usage such as user's name, date and time, and floor. This sytem will include the PC monitoring system.

For the customer, they can register their information into the system.The user can choose available PC in the cyber cafe and register their information. Then they need to top up their time before they can use the PC. When they start using their PC, their information will be review at their PC.

For the staff,they can get the record of PC user at the end of the month and can automatically generate Microsoft Excel document from the database. The staff also can generate the statistic income from the database.

1.1.1. Statement of the problem

The current system in overall was managed manually. Whenever the user want to use the PC they need to fill in the paper form. User also can not choose their own PC that available. The staff need to check the available PC for user.

At the end of the month,staff need to key in the information into the Microsoft Excel document. There are risk that the paper form will lost before the month end. There are risk that the staff make mistake during the key-in process. Staff also need to generate the income statistic manually at the end of the month. There also need time and energy for the staff to do the key-in process.

1.1.2. Objective of the system

In order to develop the CCMS, the overall objectives of this system are:

1. To develop a prototype management system for Cyber Cafe at Perbadanan Perpustakaan Awam Selangor.
2. To develope application that can generate the income statistic.
3. To develop application that can produce the usage report.

1.1.3. Scope

1. Customer

   Customers are the target user of this system. The customer can choose PC that they want to use. User need to fill their information into the form and their information will save in the database.

2. Staff

   Staff also one of the important users of this system. They are not only can view the customer information but they also can generate usage statistic for every month. Staff also can produce income statistic using the system.

3. Manager

   The system for manager is design so that the manager can view staff information and update the staff information.

1.2. Review Previous Work

1.2.1. MyCyberCafe

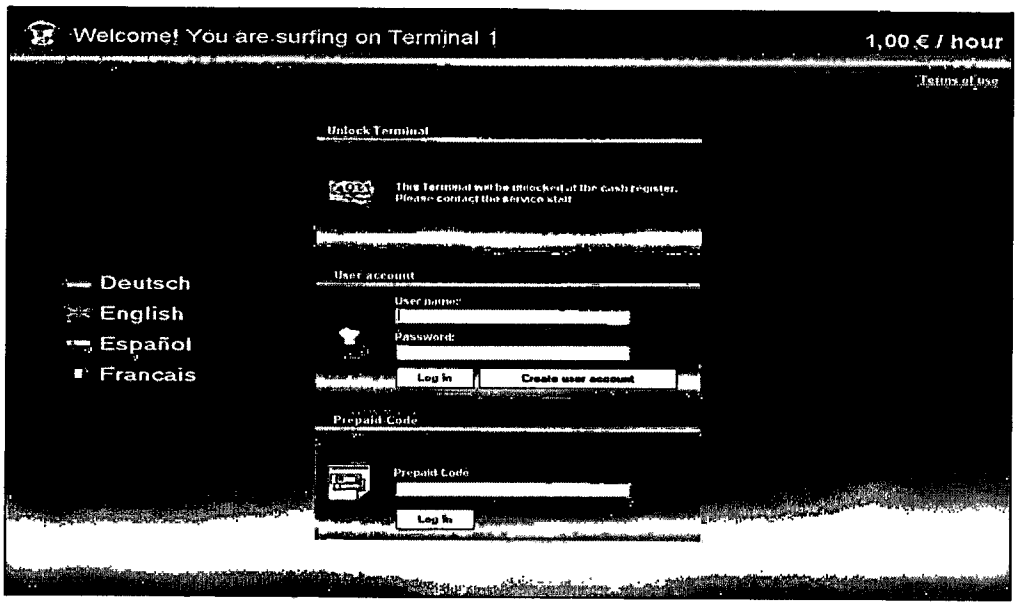

Figure 1. 1: MyCyberCafe

MyCyberCafe features :-

1. Controls the time usage of your computers and game consoles.
2. Client software limits the customer activity the way you want it - hides desktop icons, the Windows button, the access to the system.
3. Easily manages customer accounts, security, games and programs usage.
4. Controls all your printers and optionally deducts print cost from the session.
5. Full POS system with customer loyalty, advanced statistics, reports and logs.
6. Customizable pricing with prepaid and postpaidaccounts,prepaid-codes, refills.
7. Client remote control, and many options for high security.
8. MyCyberCafe software supports: Desktop personal computers, thin clients (terminal services, NComputing, etc.)
9. Deployed in more than 170 countries.
10. MyCybercafe billing software is the definitive tool for managing your Internet cafe, shools, hotels or gaming cafe / game center.

1.2.2. Cafe Suite

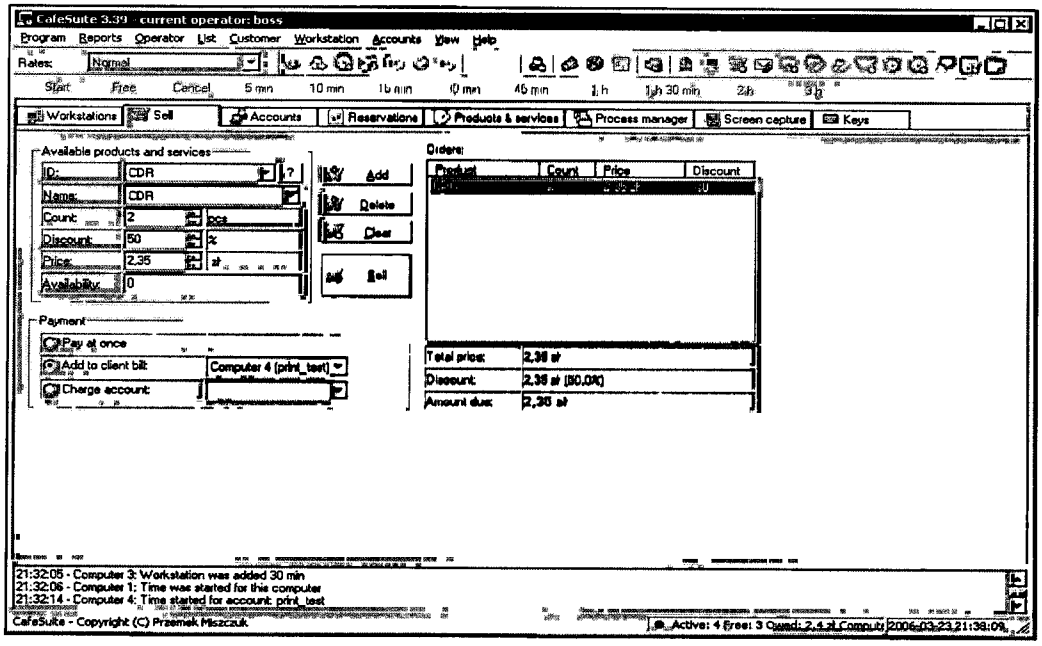

Figure 1. 2: CafeSuite

Cafe Suite Features:-

1. CafeSuite provides many levels of security, ensuring that your business is always under control.
2. Unused workstations can be securely locked so that no one can use them without proper authorization from the operator.
3. You can create many profiles for your employees with different access rights. Not every one should be able to change crucial options or pricing schemes — CafeSuite makes it possible.
4. All databases used by CafeSuite are encrypted which ensures they can't be tampered with by unouthorized individuals.
5. CafeSuite makes it really easy to manage large database of customer accounts..
6. Cafe Suite software provides you with a range of reports and statistics summarizing your business performance. Starting with very general reports, you can even get a list of all operations performed by your employees minute by minute.

1.2.3. HandyCafe

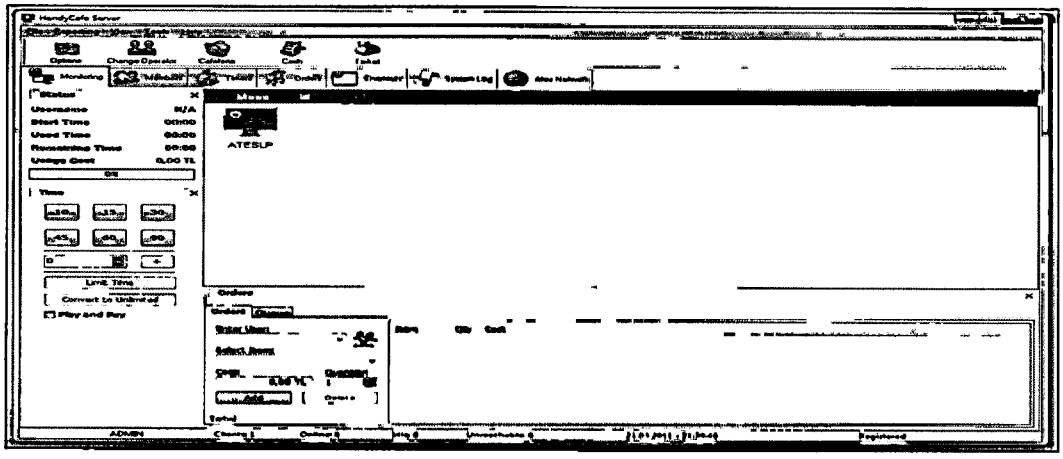

Figure 1. 3: HandyCafe

Handy Cafe features:-

1. Monitor and take the control of your clients from Server. With HandyCafe, you will never need to leave your desk. Everything will be done by one-click.
2. Create Members with Special Price and track them easily.
3. HandyCafe is multi-language. You can create your own language using Language Editor tool.
4. Manage computers from your server. Take the control of the desktop and do anything you want without leaving your desk.
5. Get screenshots from selected computer or from all Network at the same time; save them in different picture formats.
6. Use Timers to track PlayStation, Wii, XBOX, Wi-fi, Backgammon, Chess, Billard and etc. and charge your customers. Generate Timer reports anytime you need to.
7. Track and charge your customers for every printed pages automatically.
8. Generate transaction reports and export them to different formats.
9. Create unlimited cashier accounts for Server, control them and enable / disable any feature for their accounts.
10. Turn on any client computers from Server. Wake-up selected computers or all computers in your network easily.

1.3. Current System and Limitations

The current system in overall was managed manually. Everytime the user want to use the PC they need to fill in the paper form. User also can not choose their own PC that available. The staff need to check the available PC for user.

At the end of the month,staff need to key in the information into the Microsoft Excel document. There are risk that the paper form will lost before the month end. There are risk that the staff make mistake during the key-in process. Staff also need to generate the income statistic manually at the end of the month. There also need time and energy for the staff to do the key-in process.

1.4. Methodology

The methodology has been implied in the project development is the prototyping model. Prototyping is one of the software development lifecycle beside waterfall, agile and others. This method can reduce risk and limit expenses costs.

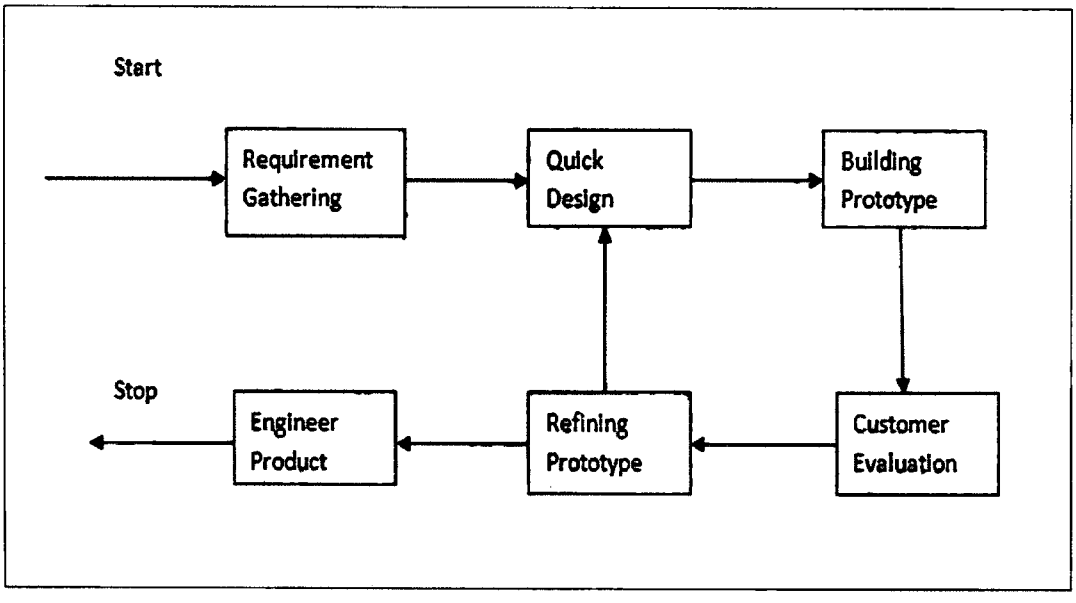

Figure 1. 4: Prototyping Model

a. Requirement Gathering

Requirements are gathered during the meeting between the developer and the client. The important element, input and output are also identified. The client of this system is the staff of Perbadanan Perpustakaan Awam Selangor. The information regarding the system is being gathered so that the system that will be developed will meet the client's requirement. The Software Requirement Specification (SRS) document will be produced in this phase. The SRS include product description, interface requirements, software product features and requirement traceability.

b. Quick Design

This process come after the requirement gathering which is the developer will design initial prototype which include user interfaces. They focus on a representation of those aspects of the system that are visible to the client which is input and output approaches. This is where the Software Design Document (SDD) will be produced. The design description and details are included in SDD.

c. Building Prototype

The quick design phase leads to the build of a prototype phase. In this phase, developer starts to construct and develop the prototype to be shown to the customer. The prototype is build base on the requirement and the initial design. This is where the developer start codes the prototype.

d. Evaluate and Refine

This process comes after the prototype building process. The prototype then will be showed to the client to be evaluated and examined by the client. Client or end-user will provide the feedback on addition or changes in their requirement base on the prototype. In this phase, Software Test Result (STR) has been produced.

e. Engineer Product

These whole processes are repeated until there no more change or addition requested from the client during the evaluate and examine phase. After all process the system becomes the end product that will be sent to the client as the final product. If the client has agreed to the end product, the user manual will be produce.

1.5. Outline of the report

This report consists of six (6) chapters:

Chapter 1 is the introduction to the project. In this part contain introduction, problem statement, objective, existing system reviews, current system and limitation and report organization.

Chapter 2 is the Software Requirement Specification (SRS). In this part contain product description, interface requirements, software product features, and requirement traceability.

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Chapter 4 presents the implementation of process that involved during development of this system.

Chapter 5 presents the result obtained from the implementation phase. The constraints of system also will be discussed in this chapter.

Chapter 6 presents the overall conclusions of the work presented in this study whether it can achieve the goal of this project.

CHAPTER 2

SOFTWARE REQUIREMENT SPECIFICATION

2.1. PRODUCT DESCRIPTION

This part explains about Cyber Cafe Management System (CCMS) requirement and specification.

2.1.1. Product Perspective

The CCMS is an application that will be used to save cyber cafe usage information. The customer can register their computer usage through the system and their information will be store in the database. The user can choose the available PC and use the PC by login into the CCMS. The staff can view cyber cafe usage information and produce income statistic and generate usage report. Manager can manage the staff information which is they can search, add and delete the information in the database.

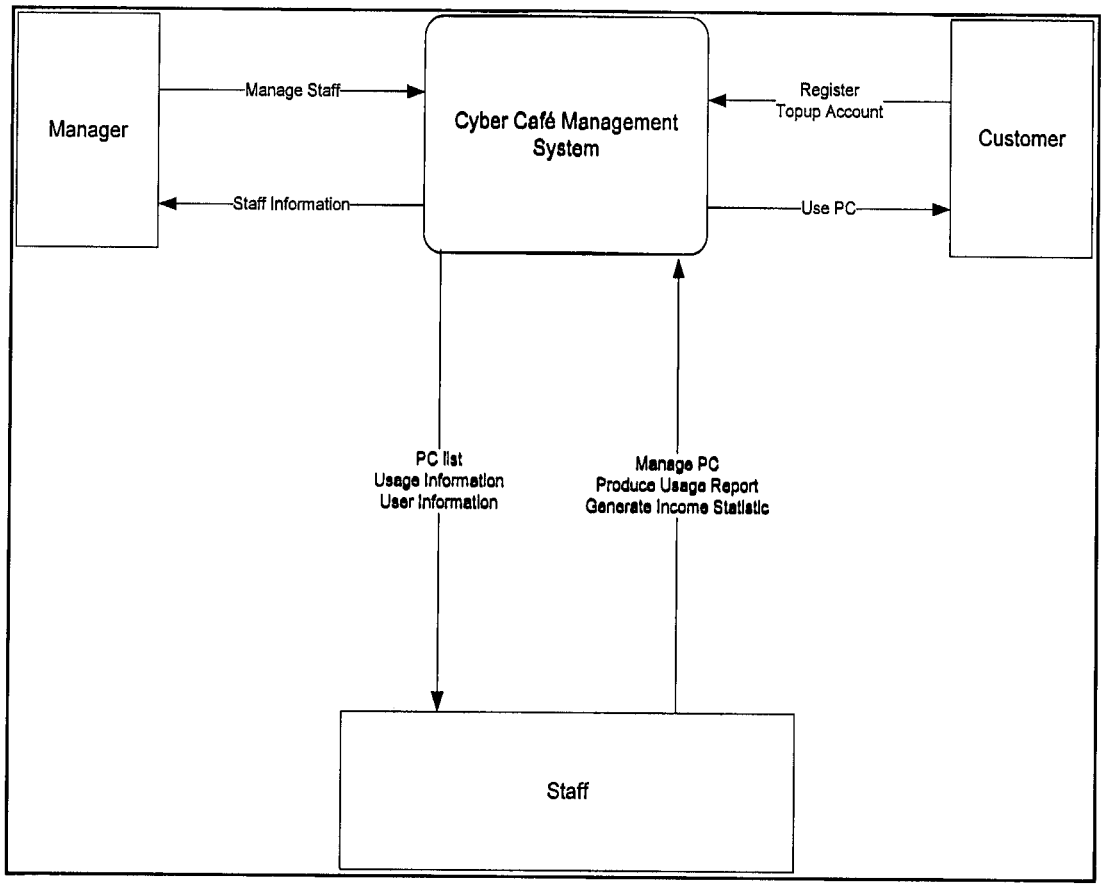


Figure 2. 1: Context Diagram for CCMS

2.1.2. **Product Function**

CCMS start when customers register into the system to use to computer. The user can register on any PC in the cyber cafe. They must purchase time from the staff after they have register before they can use the PC. There are different privileges in the system for the staff, manager and customer. For customer they can only register and use the PC only while, staff can login to the system to view user at the day and produce PC usage report and income statistic, update their information in the database and manager are able to manage staff information in the database.

The process of manage staff starts when there are staff information need to be add, delete, and update in the system. For the managers they will add or update the data regarding the staff information. Especially, if there are new staff. This data need to be update so that the staff will be able to use this system with their own id and password.

The process of search data starts when the staffs want to find user information using date and year. From there, staff can produce income statistic and produce usage report. Manager also can search staff information in the database. Figure 2.2 shows the function of the CCMS system.

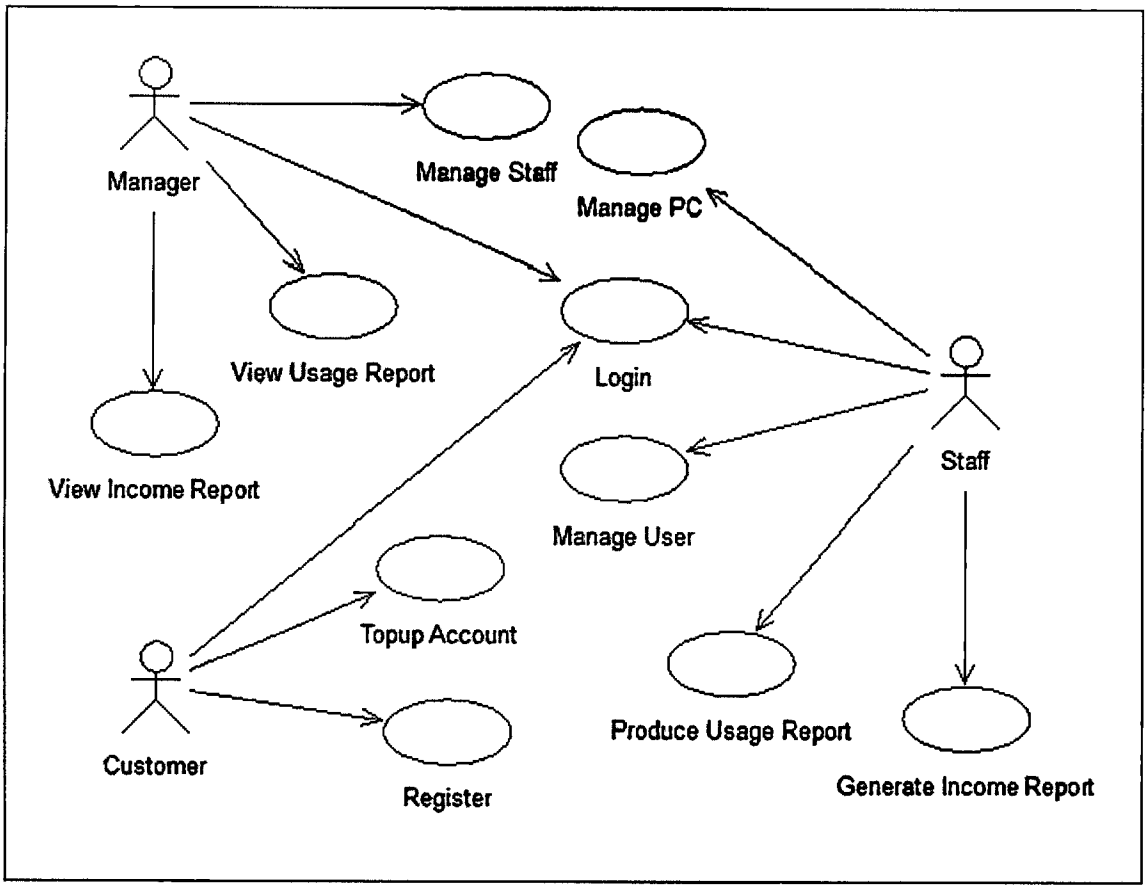


Figure 2. 2: Use case diagram for CCMS system

2.1.3. User characteristics

Table 2.1: User Characteristic

User	Education Level	Background Experience
Customer	All level education	• Have knowledge to use PC.
Staff	• At least SPM and above • Library staff	• Fast learning
Manager	At least Diploma in ICT and above	• Has experience with the administration system. • Familiar with the administration system.

2.1.4. Constraints

There are some several constraints during developing this project. The constraints are as the following:

1. Database cannot store to much data.
2. User enter false information.

2.2. INTERFACE REQUIREMENT

2.2.1. User interfaces

2.2.1.1. Customer interfaces

Customer need to register if they did not have register before by fill in their information registration page. Their information will be store into the database. After they have registered in the system they need to purchase timeblock from the staff. They need to login into CCMS using username and password they have registered early.

2.2.1.2. Staff interfaces

Once the staff login into the system, the system will prompt the staff to the Usage Information interface. At here they view the entire user on that day. Beside that they also can view the user by entering the date and time. Other than that staff also can produce usage report and income statistic.

2.2.1.3. Manager interfaces

After the manager login into the system, the main page for the manager will be displayed. At here they will be a list of button that will redirect the manager into the specific interface. The interface lists are search staff, add staff and delete staff.

2.2.2. Hardware interface

The minimum hardware requirement to develop the CCMS system:

Table 2. 2: Hardware Requirement

Hardware	Specification	Purpose
PC	Intel Core I3	Development process and documentation
Pen Drive	16gb	Backup data

2.2.3. Software interface

Table 2. 3: Software Requirement

Software	Function
Windows 7 professional	Current operating system for the development process.
MySQL Workbench	Database management of the system.
Rational Rose	Diagram and documentation
Microsoft Project	Gantt chart development
Java Netbeans	Development CCMS
Microsoft Office	Documentation

2.3. SOFTWARE PRODUCT FEATURES

2.3.1. Use Case Register*[SRS-CCMS-100-01]*

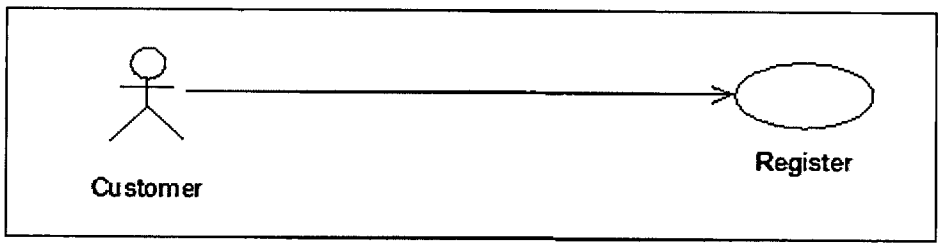


Figure 2. 3 : Register Use Case Diagram

Table 2.4: Use Case Register

Use Case ID	SRS-CCMS-100-01
Brief Description	This use case initiated by the user only. It enable user to register before they can use the PC.
Actor	Customer
Pre-Condition	User have choose the PC
Basic Flow	• The system will direct the interface into the register interface [SRS-CCMS-100-01-01] • User fill in the form[SRS-CCMS-100-01-02] **(E1 : Invalid Information)** • User submit the form[SRS-CCMS-100-01-03] • The system will prompt new user added. [SRS-CCMS-100-01-04] • Use case end.
Alternative Flow	None
Exception Flow	**E1: Invalid *Information*** [SRS-CCMS-100-01-

	02] • The system prompt the "Invalid Information" message[SRS-CCMS-100-01-02-01] • The system waits for the valid information. [SRS-CCMS-100-01-02-02] • The use case continues.
Post-Condition	Register interface
Constraints	None
Sequence Diagram	**Appendix A-1.1: Register sequence diagram**

2.3.2. Use Case Login *[SRS-CCMS-100-02]*

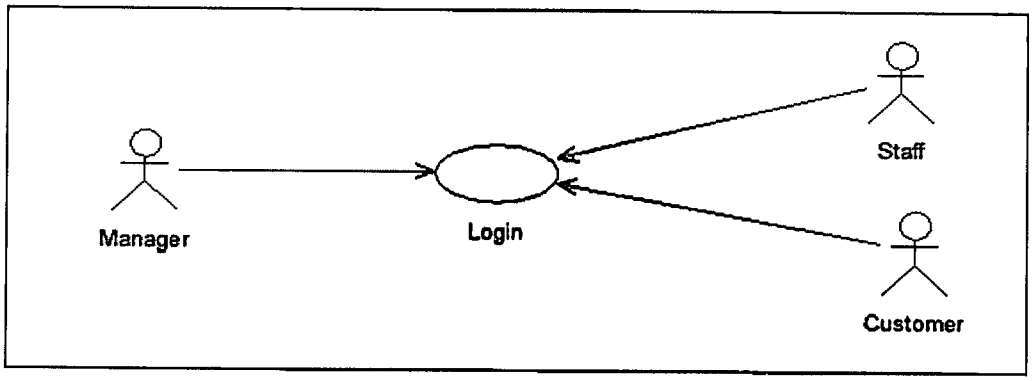


Figure 2. 4 : Login Use Case diagram

Table 2.4: Use Case Login

Use Case ID	SRS-CCMS-100-02
Brief Description	This use case is initiated by staff, manager and customer.
Actor	Staff, manager and customer.
Pre-Condition	Staff, Manager and customer table must exist in database.
Basic Flow	• The use case starts when staff, manager or customer enters username and password. • The staff, manager and customer click on "Login" button. [SRS-CCMS-100-02-01] • The system validates the username and password whether it is exists or not. **(E1: Invalid username or password).** [SRS-CCMS-100-02-02] • The system display the interface based on the staff, manager or customers. [SRS-CCMS-100-02-03]

Alternative Flow	None
Exception Flow	**E1: Invalid username or password** • The system display the error message says "Wrong username or password". [SRS-CCMS-100-02-02-01] • User re-enter their username and password[SRS-CCMS-100-02-02-02] • The process continued until the valid username and password are entered. [SRS-CCMS-100-02-02-03] • Use case continues.
Post-Condition	The user will be prompted to their interface: • Staff: Cyber Cafe Management interface. • Manager: Staff Management system interface. • Customer: Customer system interface.
Constraints	None
Sequence Diagram	**Appendix A-1.2: Login sequence diagram**

2.3.3. Use Case Manage Staff [SRS-CCMS-100-03]

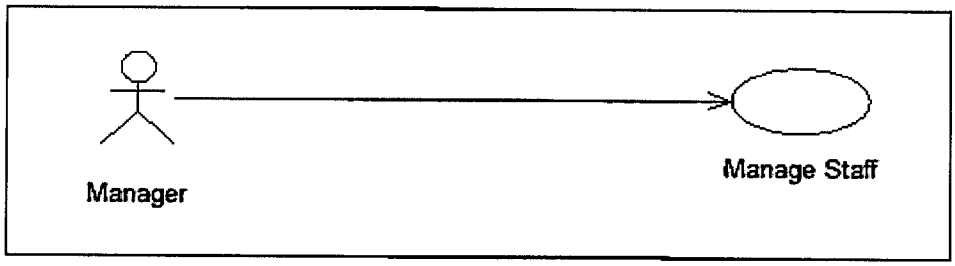


Figure 2. 5 : Manage Staff Use Case diagram

Table 2.5: Use Case Manage Staff

Use Case ID	SRS-CCMS-100-03
Brief Description	The use case is initiated by the manager. It provides capability to view the staff information in the database. The manager can search, add and delete staff record in the database.
Actor	Manager
Pre-Condition	Manager have login into the system.
Basic Flow	• Use case start when the manager click "Manage Staff" panel. [SRS-CCMS-100-03-01] • System will show staff information. [SRS-CCMS-100-03-02] • In the Staff Management Panel, Manager can do the following: 1. Update Staff(**A1 : Update Staff**) [SRS-CCMS-100-03-03] 2. Delete staff(**A2 : Delete Staff**) [SRS-CCMS-100-03-04] 3. Add new staff(**A3 : Add Staff**) [SRS-CCMS-100-03-05]

	• Use case end
Alternative Flow	**A1 : Update Staff**[SRS-CCMS-100-03-03] • Manger Click "Update Staff" panel[SRS-CCMS-100-03-03-01] • System prompt the update staff panel[SRS-CCMS-100-03-03-02] • Manager enter the staff id[SRS-CCMS-100-03-03-03] • Manager click search[SRS-CCMS-100-03-03-04] • The system show the staff information[SRS-CCMS-100-03-03-05] • Manager edit staff information[SRS-CCMS-100-03-03-06] • Manager Click Update Button[SRS-CCMS-100-03-03-06] • Use case continues **A2 : Delete Staff**[SRS-CCMS-100-03-04] • Staff Click "Delete Staff" button[SRS-CCMS-100-03-04-01] • System prompt the all staff name and id[SRS-CCMS-100-03-04-02] • Staff select staff to delete[SRS-CCMS-100-03-04-03] • Staff click delete staff[SRS-CCMS-100-03-04-04] • Use case continues **A3 : Add Staff**[SRS-CCMS-100-03-05] • Staff Click "Add Staff" button[SRS-CCMS-100-

	03-05-01] • System prompt the form for the staff information[SRS-CCMS-100-03-05-02] • Manager fill in the form[SRS-CCMS-100-03-05-03] • Manager click "Add" button[SRS-CCMS-100-03-05-04] • System save the information into the database[SRS-CCMS-100-03-05-05] • Use case continues
Exception Flow	None
Post-Condition	None
Constraints	None
Sequence Diagram	**Appendix A-1.3: Manage Staff sequence diagram**

2.3.4. Use Case Produce Usage Report *[SRS-CCMS-100-04]*

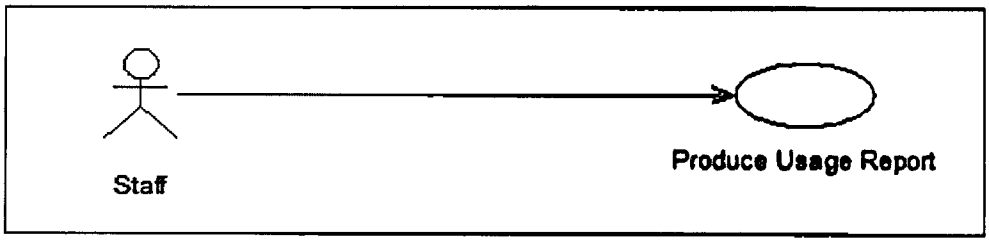


Figure 2. 6 : Produce Usage Report Use Case diagram

Table 2.6: Use Case Produce Usage Report

Use Case ID	SRS-CCMS-100-04
Brief Description	This use case initiated by staff. Its enable the staff to produce usage report from user information based on month and year.
Actor	Staff
Pre-Condition	Staff have login into the system
Basic Flow	• The use case start when the user click on the "Manage Usage Report" • Users then are prompted to the Manage Usage Report panel. • At the Manage Usage Report panel, staff can do the following function: 1. Search usage information based on month and year[SRS-CCMS-100-04-01] **(A1 : Search usage information)** 2. Produce Usage Report[SRS-CCMS-100-04-02] **(A2 : Produce Usage Report)** • The use case end.

Alternative Flow	**A1 : Search usage statistic** [SRS-CCMS-100-04-01] • This function is triggered by staff. • Staffs clicks on "Search Usage Information" button. [SRS-CCMS-100-04-01-01] • The system displays the "Usage Information" page with a specific place to enter day, month and year. [SRS-CCMS-100-04-01-02] • Staff can choose to search for day only, month only or year only. [SRS-CCMS-100-04-01-03] • The system displays the saved usage information. [SRS-CCMS-100-04-01-04] • Use case continues. **A2 : Produce Usage Report** [SRS-CCMS-100-04-02] • This function can be triggered by the staff. • Users click on the "Produce Usage Report" button. [SRS-CCMS-100-04-02-01] • System displays usage report based on usage information. [SRS-CCMS-100-04-02-02] • Staff can convert the usage report in the database into Microsoft Excel[SRS-CCMS-100-04-02-03] • Use case continues.
Exception Flow	None
Post-Condition	Main page
Constraints	None
Sequence Diagram	**Appendix A-1.4: Produce Usage Report sequence diagram**

2.3.5. Use Case Manage User*[SRS-CCMS-100-05]*

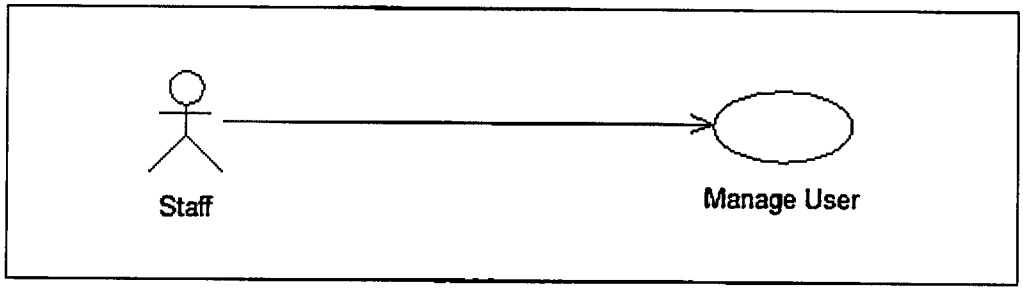


Figure 2. 7 : Manage User use Case diagram

Table 2.7: Use Case View User

Use Case ID	SRS-CCMS-100-05
Brief Description	This use case initiated by the staff to manage user. It provides the capability to add user, delete user, view user, update user and add timeblock into user account.
Actor	Staff
Pre-Condition	Staff have login into the system.
Basic Flow	• The use case starts when the staffs click on the "View User" button. [SRS-CCMS-100-05-01] • System prompt user information[SRS-CCMS-100-05-02] • Use case ends.
Alternative Flow	None
Exception Flow	None
Post-Condition	Menu page
Constraints	None
Sequence Diagram	**Appendix A-1.5: Manage User sequence diagram**

2.3.6. Use Case Generate Income Statistic*[SRS-CCMS-100-06]*

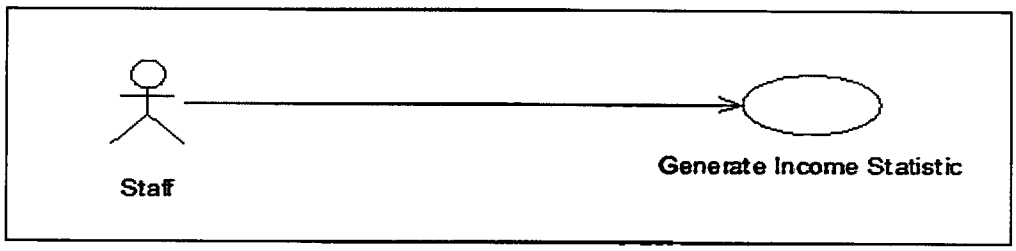


Figure 2. 8 : Generate Income Statistic information use case

Table 2. 8: Use Case Generate Income Statistic

Use Case ID	SRS-CCMS-100-06
Brief Description	This use case initiated by staff. Its enable the staff to produce usage report from user information based on day, month or year.
Actor	Staff
Pre-Condition	Staff have login into the system
Basic Flow	• The use case start when the staff click on the "Usage Information" [SRS-CCMS-100-06-01] • Staff then are prompted to the User Information page. [SRS-CCMS-100-06-01-02] • At the User Information page staff can do the following function: 1. Search usage information[SRS-CCMS-100-06-03] **(A1 : Search usage information)** 2. Generate income statistic[SRS-CCMS-100-06-04] **(A3 : Generate income statistic)** • The use case end.

Alternative Flow	**A1 : Search usage statistic** [SRS-CCMS-100-06-03] • This function is triggered by staff. • Staffs clicks on "Search Usage Information" button. [SRS-CCMS-100-06-03-01] • The system displays the "Usage Information" page with a specific place to enter day, month and year. [SRS-CCMS-100-06-03-02] • Staff can choose to search for day only, month only or year only. [SRS-CCMS-100-06-03-03] • The system displays the saved usage information. [SRS-CCMS-100-06-04] • Use case continues. **A2 : Generate income statistic**[SRS-CCMS-100-06-04] • This function can be triggered by the staff. • Users click on the "Generate Income Statistic" button. [SRS-CCMS-100-06-04-01] • System displays income statistic based on usage information. [SRS-CCMS-100-06-04-02] • Staffs can the convert the income statistic from the display into Microsoft Excel by clicking "Convert into Microsoft Excel" button. [SRS-CCMS-100-06-04-03] • Use case end.
Exception Flow	None
Post-Condition	None
Constraints	None
Sequence Diagram	**Appendix A-1.6: Generate Income Statistic sequence diagram**

2.3.7. Use Case Top up account*[SRS-CCMS-100-07]*

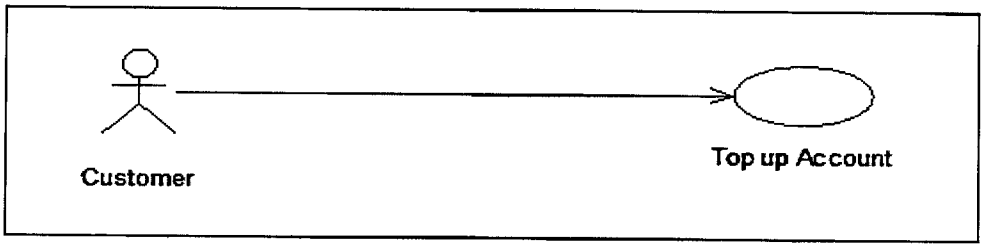


Figure 2. 9 : Top up Account use case

Table 2. 9 : Use Case Top up Account

Use Case ID	SRS-CCMS-100-07
Brief Description	This use case can only initiated by customer.
Actor	Customer
Pre-Condition	None
Basic Flow	• User go to staff and ask staff to add time [SRS-CCMS-100-08-01] • User pay to staff and staff add time to account [SRS-CCMS-100-08-02] • The use case ends
Alternative Flow	None
Exception Flow	None
Post-Condition	Main page
Constraints	None
Sequence Diagram	**Appendix A-1.7: Top up Account sequence diagram**

2.3.8. Use Case Manage PC *[SRS-CCMS-100-08]*

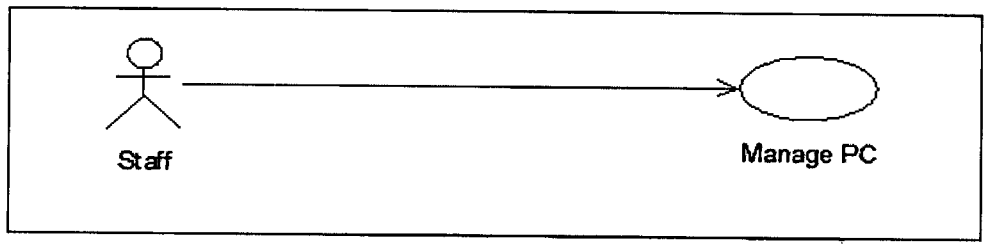


Figure 2. 10 : Manage PC Use Case diagram

Table 2. 10 : Use Case Manage PC

Use Case ID	SRS-CCMS-100-08
Brief Description	The use case is initiated by the staff. It provides capability to add pc information into the database.
Actor	Staff
Pre-Condition	Staff View Manage PC panel
Basic Flow	• Use case start when the staff click "Manage PC" panel. [SRS-CCMS-100-08-01] • At the manage PC page, staff can do the following : 1. View PC list[SRS-CCMS-100-08-02] **(A1:View PC List)** 2. Add New PC[SRS-CCMS-100-08-03] **(A2:View Online PC)** • Use case end
Alternative Flow	**A1:View PC List**[SRS-CCMS-100-08-02] • The manager clicks on the "View PC" button. [SRS-CCMS-100-08-02-01] • The system shows the list of PC. [SRS-CCMS-100-08-02-02]

	A2:View PC Online[SRS-CCMS-100-08-03] • The manager clicks on the "View" button. [SRS-CCMS-100-09-03-01] • Use case continues. •
Exception Flow	None
Post-Condition	None
Constraints	None
Sequence Diagram	**Appendix A-1.8: Manage PC sequence diagram**

2.3.9. Use Case View Usage Report *[SRS-CCMS-100-09]*

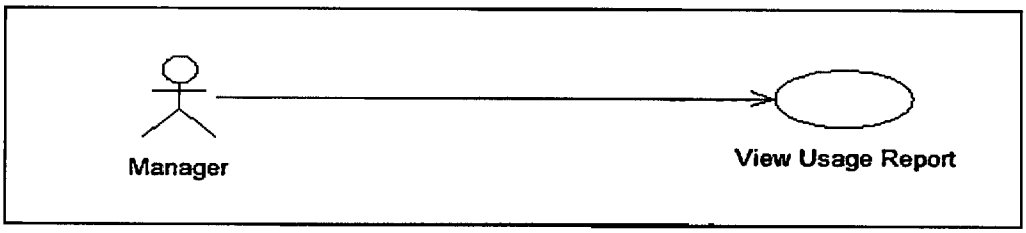


Figure 2. 11 View Usage Report Use Case diagram

Table 2. 11 : Use Case Manage PC

Use Case ID	SRS-CCMS-100-09
Brief Description	The use case is initiated by the manager. It provides capability to view usage report stored in database.
Actor	Manager
Pre-Condition	Manager view Usage Report panel
Basic Flow	• Use case start when the manager choose "View Usage Report" panel. [SRS-CCMS-100-09-01] • Manager choose date and year[SRS-CCMS-100-09-02] • Click "View" button[SRS-CCMS-100-09-03] • Usage information show in table[SRS-CCMS-100-09-04] • Use case end
Alternative Flow	None
Exception Flow	None
Post-Condition	None
Constraints	None
Sequence Diagram	**Appendix A-1.9: View Usage Report sequence diagram**

2.3.10. **Use Case View Income Statistic *[SRS-CCMS-100-10]***

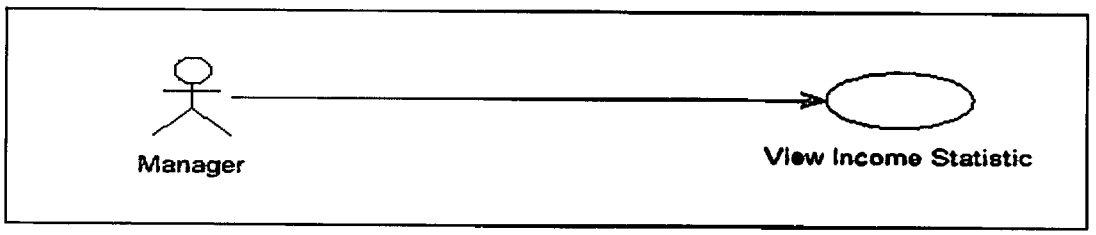


Figure 2. 12 : View Income Statistic Use Case diagram

Table 2. 12 : Use Case View Income Statistic

Use Case ID	SRS-CCMS-100-10
Brief Description	The use case is initiated by the manager. It provides capability to view usage report stored in database.
Actor	Manager
Pre-Condition	Manager view Income Statistic panel
Basic Flow	• Use case start when the manager click "View Income Statistic" panel. [SRS-CCMS-100-10-01] • Manager choose date and year[SRS-CCMS-100-10-02] • Click "View" button[SRS-CCMS-100-10-03] • Income Statistic show in table[SRS-CCMS-100-10-04] • Use case end
Alternative Flow	None
Exception Flow	None
Post-Condition	None

Constraints	None
Sequence Diagram	Appendix B-1.10: Manage PC sequence diagram

2.4. REQUIREMENT TRACEABILITY

Table 2. 13 : Requirement Traceability

Requirement	Description
1. [SRS-CCMS-100-01-01]	The system will direct the interface into the register interface
2. [SRS-CCMS-100-01-02]	System check the information filled by customer either it is valid or not.
3. [SRS-CCMS-100-01-03]	User submit the form
4. [SRS-CCMS-100-01-04]	The system will prompt amount need to pay by the user.
5. [SRS-CCMS-100-02-01]	The staff and manager click on "Login" button.
6. [SRS-CCMS-100-02-02]	The system validates the username and password whether it is exists or not
7. [SRS-CCMS-100-02-03]	The system display the interface based on the staff or manager.
8. [SRS-CCMS-100-03-01]	manager click "Staff Management" button
9. [SRS-CCMS-100-03-02]	System will show staff information
10. [SRS-CCMS-100-03-03]	Search Staff
11. [SRS-CCMS-100-03-04]	Delete staff
12. [SRS-CCMS-100-03-05]	Add new staff
13. [SRS-CCMS-100-04-01]	Search usage information based on day,

	month and year
14. [SRS-CCMS-100-04-02]	Produce Usage Report
15. [SRS-CCMS-100-05-01]	The use case starts when the staffs click on the "View User" button.
16. [SRS-CCMS-100-05-02]	System prompt user information
17. [SRS-CCMS-100-06-01]	The use case start when the staff click on the "Usage Information"
18. [SRS-CCMS-100-06-01-02]	Staff then are prompted to the User Information page
19. [SRS-CCMS-100-06-03]	Search usage information
20. [SRS-CCMS-100-06-04]	Generate income statistic

CHAPTER 3

SOFTWARE DESIGN DOCUMENT (SDD)

3.1. SYSTEM OVERVIEW

This part of the document explains the design for the CCMS system based on the requirement. All the design in this part is present in SDD which is referred from SDD document.

The user which is customer, staff and manager are interacting with the system. The context diagram of CCMS below show the interaction between users and the system. The staff and manager are requires to login before they can access the system. For customer, they are able to choose PC and register to use the PC. For staff, they are able to view user, manage PC, produce usage report, generate income statistic. For manager, they are able to manage staff information.

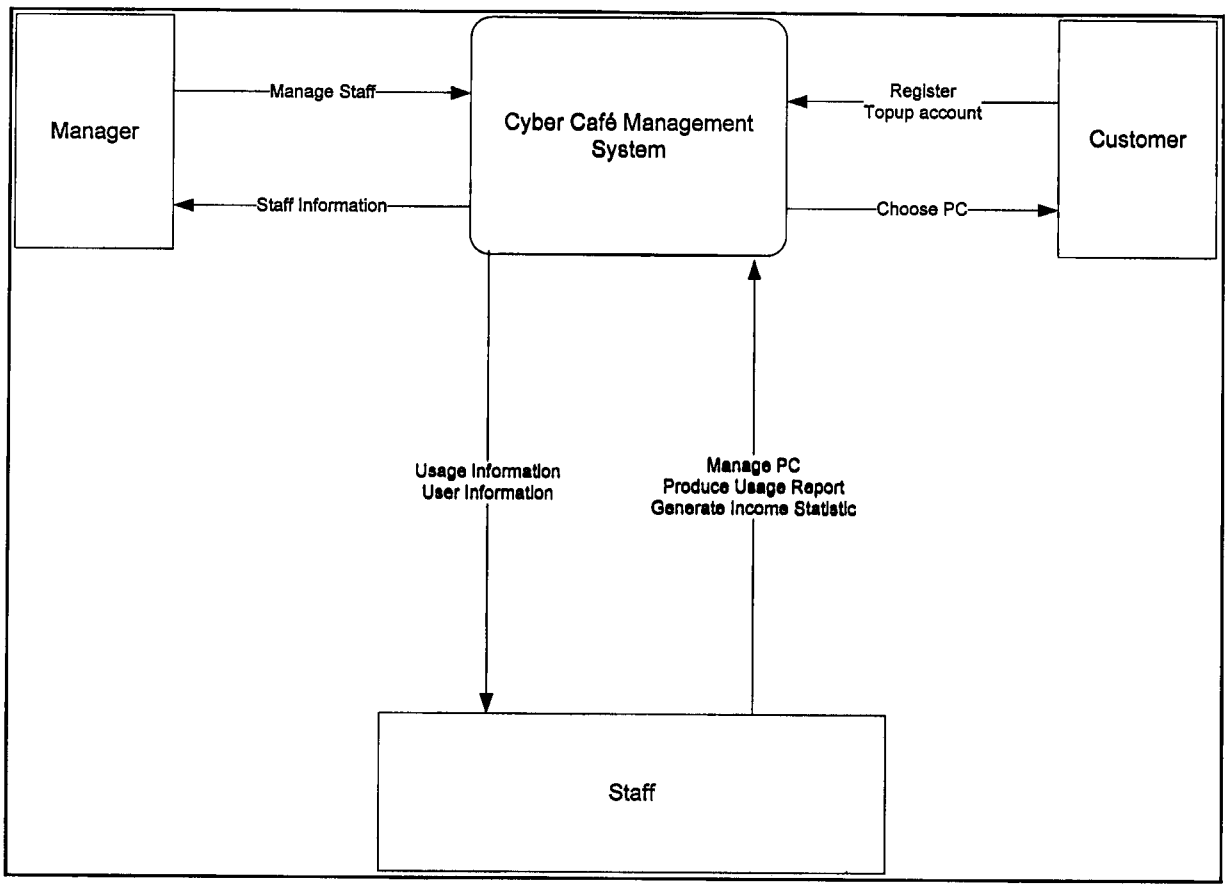


Figure 3. 1 : Context Diagram for CCMS

3.1.1. System Architecture

This part identifies the internal organizational structures which is including the details description of the relationship between subsystems.

3.1.1.1. Static Organization

Static organization consists of the list of the package of the system which is CCMSClient, CCMSManagement and CCMSServer.

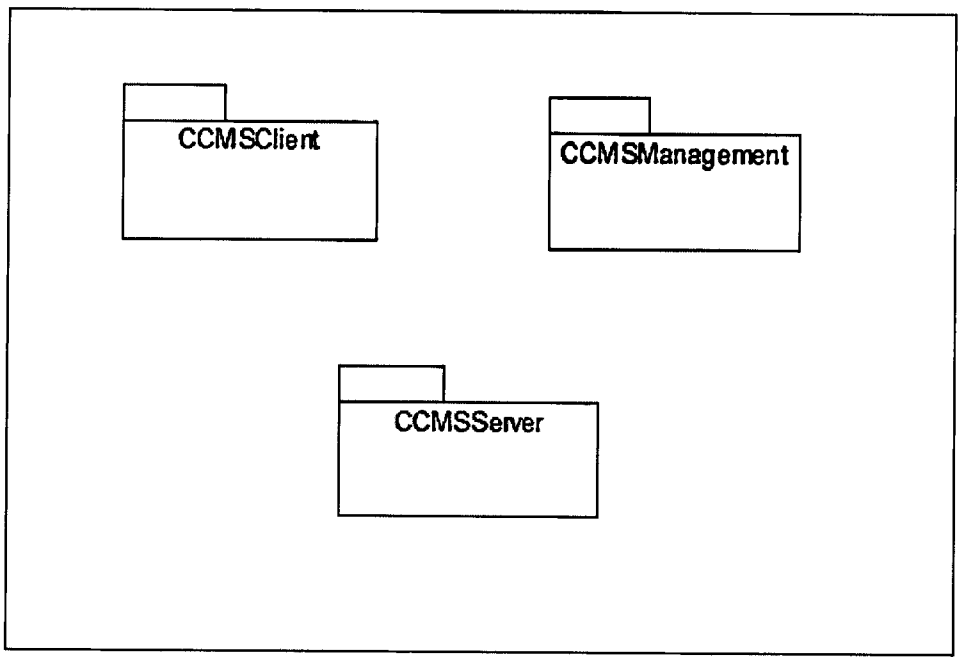


Figure 3. 2 : Static Organization for CCMS

This section describes the detail for each package which is CCMSClient, CCMSManagement, CCMSServer.

1. CCMSClient

This package responsible for client side which will be control by user to use the PC.

a. Class MainPage
b. Class Register
c. Class Login
d. Class StartPage
e. Class TimeDisplay

2. **CCMSManagement**

This package responsible to manage the staff information, user information and PC information which is use by manager and staff.

a. Class Login
b. Class Staff
c. Class Manager
d. Class ExcelExporter

3. **CCMSServer**

This package is responsible to send user information from CCMSClient to CCMSManegement.

a. Class A_Chat_Server
b. Class A_Chat_Server_Return

3.1.1.2. Dynamic Organization

Component diagram which is exist in the system. Figure 3.3 shows the component diagram.

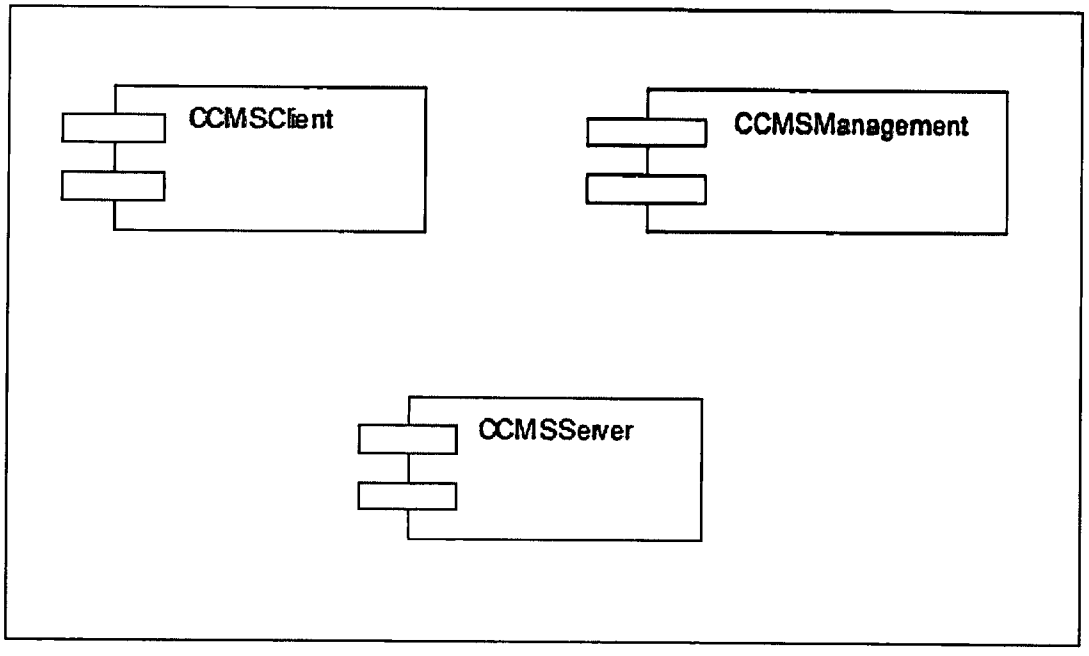


Figure 3. 3 : Component Diagram for CCMS

3.1.1.3. Subsystem Interface

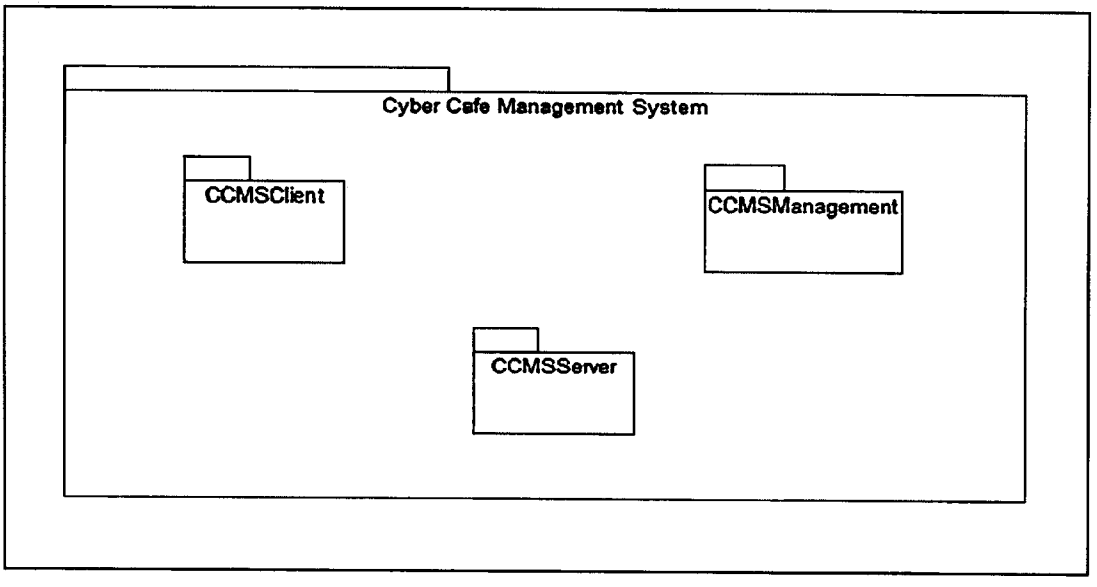


Figure 3. 4 : Subsystem Interface

3.2. SYTEM STATES AND MODES

This section describes the state diagram for CCMS. Figure 3.5 shows the state diagram for CCMS. This shows the summary process from login activity until logout.

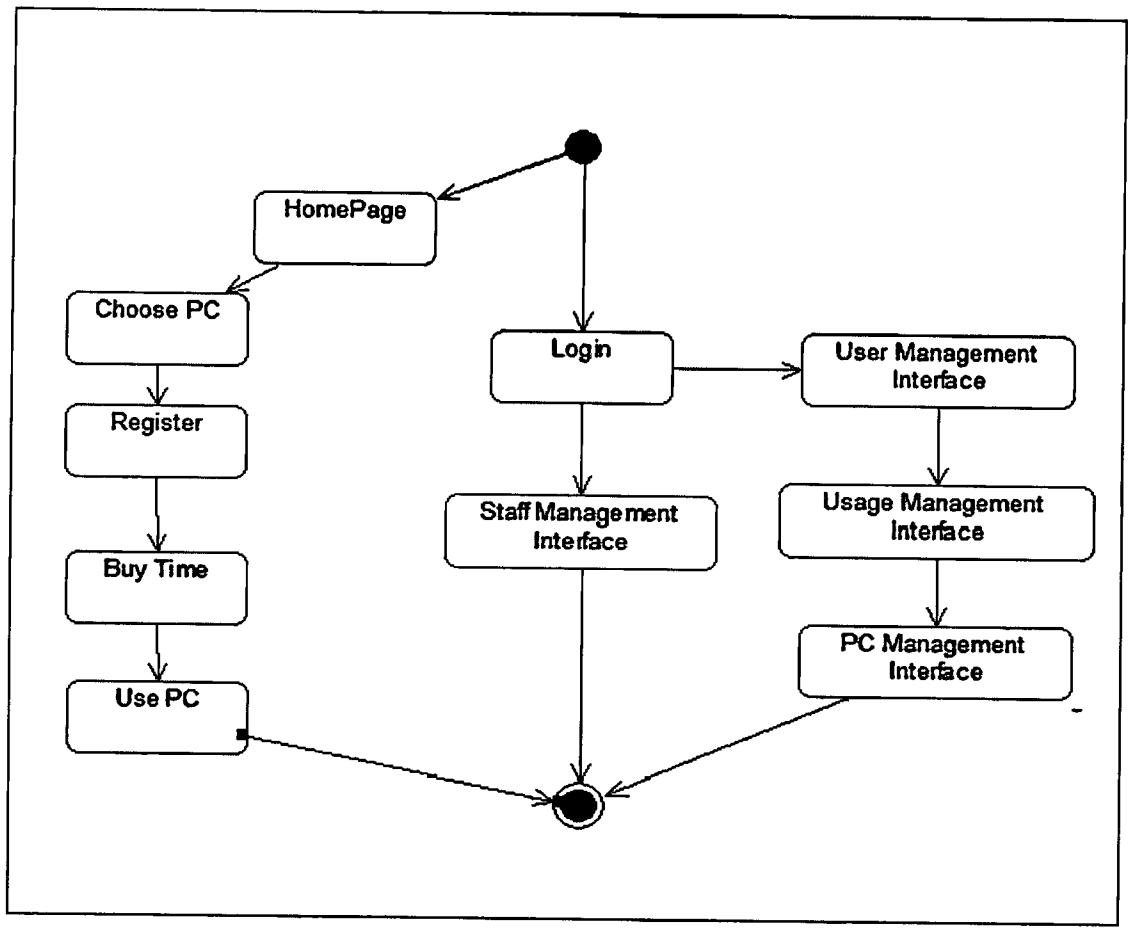


Figure 3. 5 : State Diagram for CCMS

The customer can choose any PC available and register. The staff and manager needs to login to access their system. For customer menu they are able to view available PC at that time. While for staff they are able to view user, manage PC, record printer & charger usage, produce usage report and generate income statistic. For manager, they are able to manage the staff information such as add new staff, view staff and delete the staff information.

3.3. SYSTEM DESIGN DESCRIPTION

3.3.1. System Design

CCMS consists of three main package which are CCMSClient package, CCMSManagement and CCMSServer. CCMSClient will be use by the customer, CCMSManagement will be use by staff and manager and CCMSServer used as connection between CCMSClient and CCMSManagement.

3.3.1.1. CCMSClient Subsystem

The internal part of the CCMSClient subsystem include the package diagram of CCMSClient subsystem with the classes diagram hide inside the package is shown in Figure 3.6.

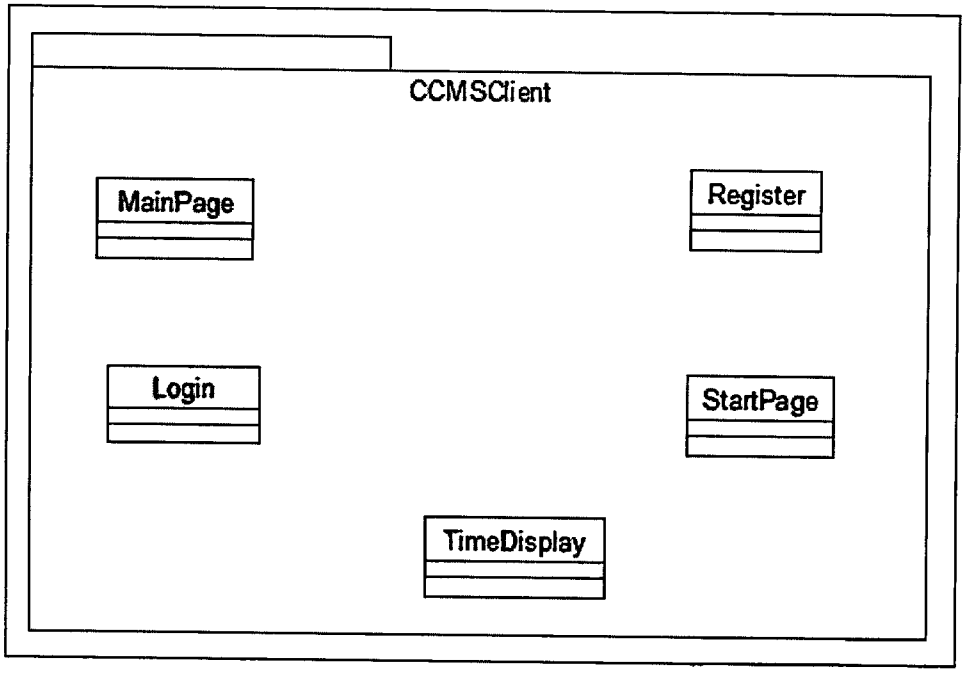


Figure 3. 6 : Visibility of CCMSClient

3.1.1.2 CCMSManagement Subsystem

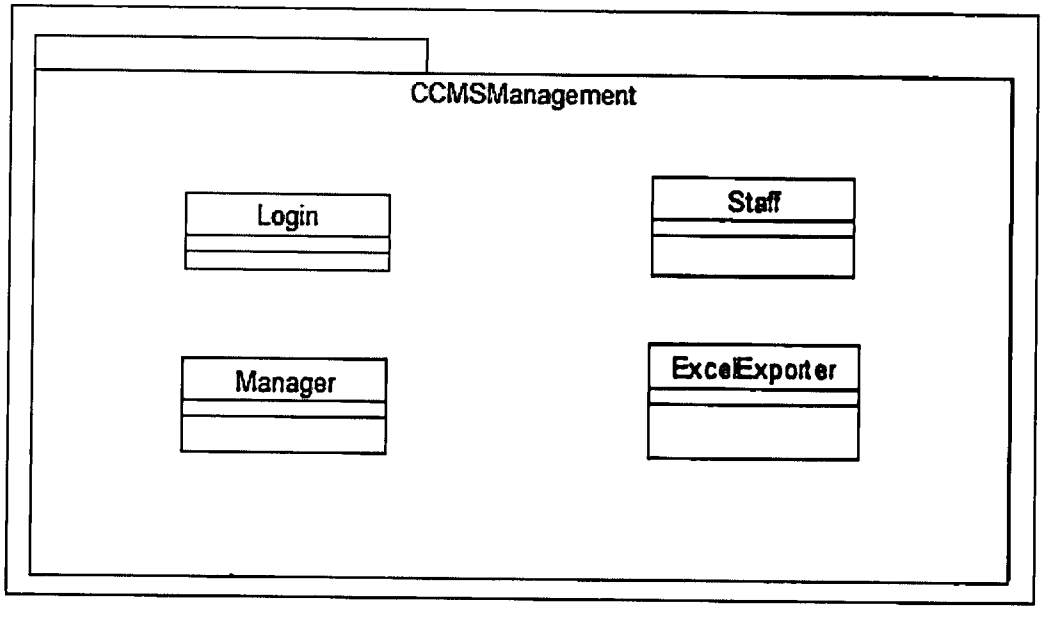


Figure 3. 7 : Visibility of CCMSManagement

3.1.1.3 CCMSServer Subsystem

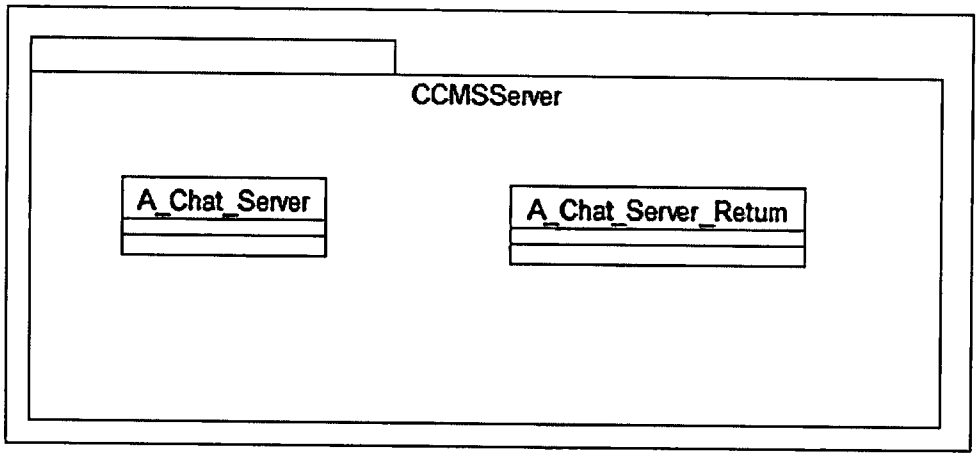


Figure 3. 8 : Visibility of CCMSServer

3.3.2. Detailed design

This part divided into the following paragraph and subparagraph to describe the detailed design.

3.3.2.1. CCMSClient Subsystem

CCMSClient subsystem is shown in Figure 3.11.This subsystem need to describe the relationship among the other classes that are exists in this subsystem. CCMSClient subsystem consists of MainPage Interface, Login Interface, Register Interface, StartPage Interface, TimeDisplay Interface, SettingLogin Interface, SettingPage Interface.

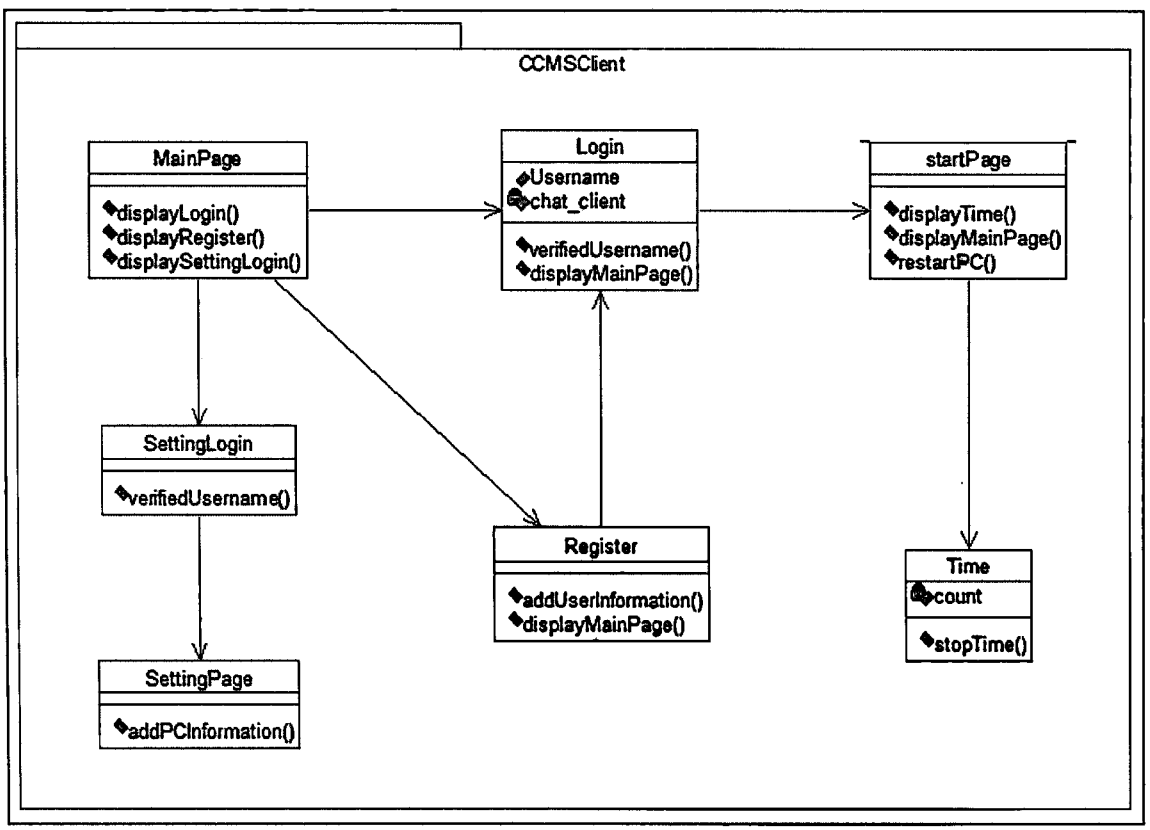


Figure 3. 9 : CCMSClient subsystem detail design

1. **MainPage class**

The purpose of this class is to to let customer choose whether to go to Register page or Login page and for Staff to enter setting page.

i. **Class MainPage Design**

a. **Input/ Output data elements**

List of input and output data elements:

Input: none

Output: display Login () Interface, Register() Interface, SettingLogin() Interface.

2. **Register Class**

This class is for customer to register their account into database.

i. **Class Register Design**

This section specifies the design of the Register class.

a. **Input/ Output data elements**

List of input and output elements:

Input : none

Output: Customer information stored in database, user directed into MainPage.

3. **Login Class**

This class is for customer to enter StartPage and start using the pc.

i. **Class Login Design**

This specifies the design of Login class.

a. **Input/ Output data elements**

List of input and output data elements:

Input : none

Output : User directed to StartPage interface, user directed to MainPage().

4. **StartPage Class**

This class display the customer information and the user can start using the pc by clicking start button.

i. **Class StartPage Design**

This specifies the design of StartPage class.

a. **Input/ Output data elements**

List of input and output data elements:

Input : none

Output : user directed into time interface, user directed into MainPage, PC restarted.

5. **Time Class**

This class is for time countdown interface.

i. **Class TimeDisplay Design**

This specifies the design of TimeDisplay class.

a. **Input/ Output data elements**

List of input and output data elements:

Input : none

Output : time will countdown stopped.

6. **SettingLogin Class**

This class is for staff to enter SettingPage.

i. **Class SettingLogin Design**

This specifies the design of SettingLogin class.

a. **Input/ Output data elements**

List of input and output data elements:

Input : none

Output : Staff directed to SettingPage interface, staff directed to MainPage.

7. SettingPage Class

This class is for staff to insert pc information into database.

i. Class SettingPage Design

This specifies the design of SettingPage class.

a. Input/ Output data elements

List of input and output data elements:

Input : none

Output : PC information stored in database, user directed to MainPage.

3.3.2.2 CCMSManagement Subsystem

Staff management subsystem is shown in Figure 3.12. This subsystem need to describe the relationship among other classes.

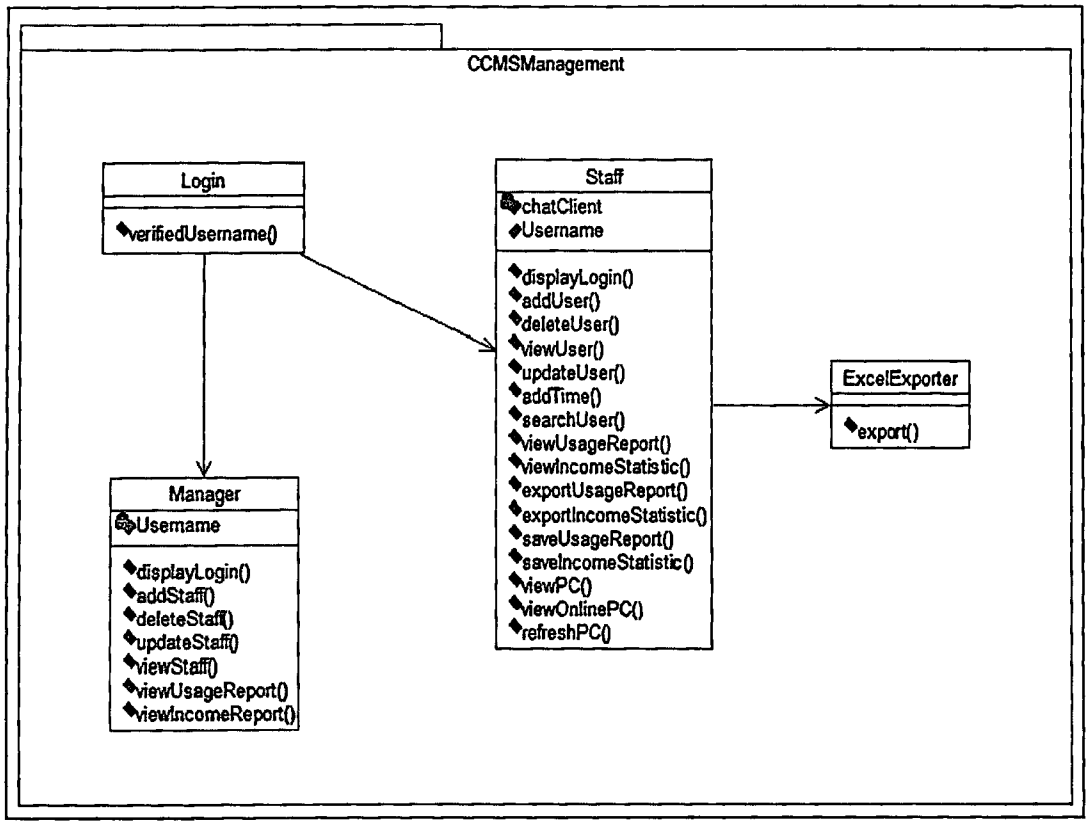


Figure 3. 10 : CCMSManagement subsystem detail design

1. **Login Class**

The purpose of this class is for staff or manager to enter staff management interface or manager management interface.

i. **Class Login Design**

This session specifies the design of Login class.

a. **Input/ Output data elements**

List of input and output data elements:

Input : none.

Output : Staff or manager will derected to staff interface or manager interface.

2. **Manager Class**

This class is created for manager to manage staff, view usage report and income report.

i. **Class Manager Design**

This section specifies the design Manager class.

a. **Input/ Output**

List of input and output:

Input : none

Output : user will directed to Login page, new staff added, staff information deleted, staff information updated, staff information viewed in table, usageReport viewed in table, income statistic viewed in table.

3. Staff Class

This class is created for staff to manage user, manage usage report, manage income report and manage pc.

i. Class Staff Design

This section specifies the design of Staff class.

a. Input/ Output

List of input and output:

Input : none.

Output : user directed to Login page, new user added, user information deleted, user information updated, user information viewd in table, time added into user account, user information viewed, usage report viewed in table, income statistic viewed on table, usage report exported to microsoft excel, income report exported to microsoft excel, usage report saved in database, income statistic saved in database. PC name view in list. Online PC view in list, online PC list refreshed.

3.3.2.3.CCMSServer Subsystem

CCMSServer subsystem is shown in Figure 3.13.

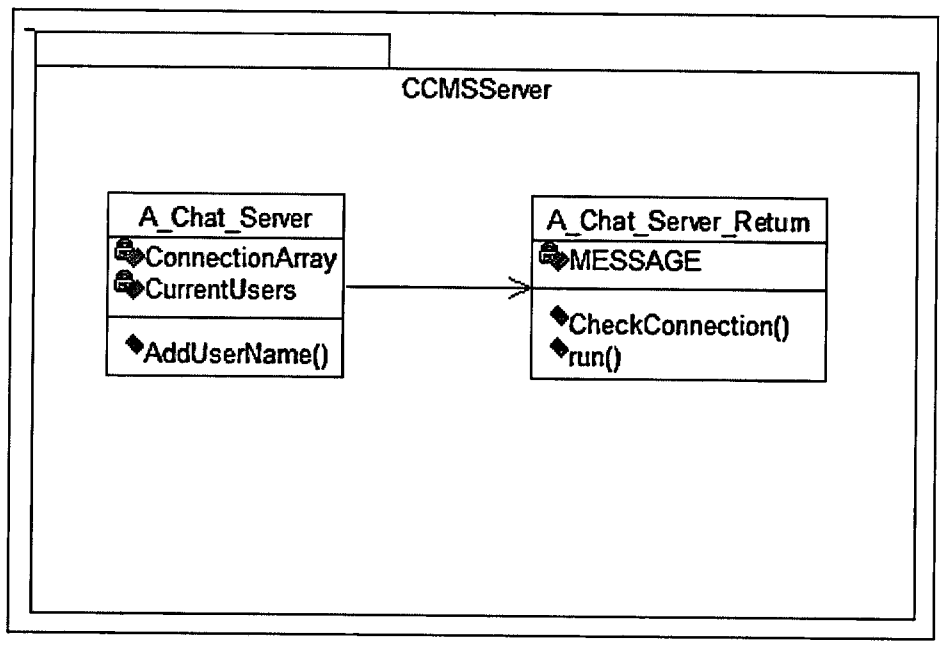


Figure 3. 11 : CCMSServer subsystem detail design

1. **A_Chat_Server class**

   The purpose of this class is get the pcName and customer username from CCMSClient.

   i. **Class A_Chat_Server Design**

   This session specifies the design of the A_Chat_Server class

   a. **Input/ Output data elements**

   List of input and output data elements:

   Input: ConnectionArray, CurrentUsers

   Output : none

2. A_Chat_Server_Return Class

This class created to send every pcName and custUsername to CCMSManagement interface.

a. Input/ Output data elements

The list of input and output data elements:

Input : MESSAGE

Output : Send pcName and custUsername to CCMSManagement interface.

3.4. DATABASE DESIGN

Database design is a process of developing a database design or data model that meet with the user requirement. In the CCMS, there is a several database table which are customer, staff, PC and menu.

Table 3.1: customerInfo table

Name	Data Type	Primary Key	Foreign Key
custID	varchar	Yes	-
custName	varchar	-	-
custBirthdate	date	-	-
custGender	varchar	-	-
custUsername	varchar	-	-
custPassword	varchar	-	-

Table 3.2: staffInfo Table

Name	Data Type	Primary Key	Foreign Key
staffID	varchar	Yes	-
staffName	varchar	-	-
staffEmail	varchar	-	-
staffUsername	varchar	-	-
staffPassword	varchar	-	-

Table 3.3: managerInfo table

Name	Data Type	Primary Key	Foreign Key
ManagerID	varchar	Yes	-
managerName	Varchar	-	-
managerEmail	varchar	-	-
managerUsername	Varchar	-	-
managerPassword	Varchar	-	-

Table 3.4: Usage table

Name	Data Type	Primary Key	Foreign Key
No	int	yes	-
custID	varchar	-	-
usageTime	varchar	-	-
usageDate	varchar	-	-
pcName	varchar	-	-
Floor	varchar		

Table 3. 7 : usageReport table

Name	Data Type	Primary Key	Foreign Key
No	Int	yes	-
Floor	Varchar	-	-
Month	Date	-	-
Year	Date	-	-
noOfUser	Varchar	-	-
noOfAllMonthUser	Varchar	-	-
noOfAllUser	Varchar	-	-

Table 3. 8 : PC library table

Name	Data Type	Primary Key	Foreign Key
pcName	varchar	-	-
Floor	varchar	-	-

Table 3. 9 : timeBlock table

Name	Data Type	Primary Key	Foreign Key
No	int	-	-
custID	int	yes	-
timePurchase	time	-	-
datePurchase	date	-	-
blockPurchase	varchar	-	-
timeRemaining	time	-	-

CHAPTER 4

IMPLEMENTATION

4.1 Introduction

This section will discuss about the system implementation and coding structure implemented in this project. Basically, this chapter describes the implementation phase of proposed system and it consists of database, interface design and source code.

4.2 System Implementation

System implementation is where the process of building prototype is started.

4.2.1 Database Connection

The database tool that will be use for this project is MySQL workbench. All information for this system will be store in the database. This system consist of a few table which is customerinfo,managerinfo,staffinfo,usage,payment,pclibrary,usagereport,incomereport. Figure 4.1 and 4.2 show the connection configuration between netbeans IDE and MySQL Workbench.

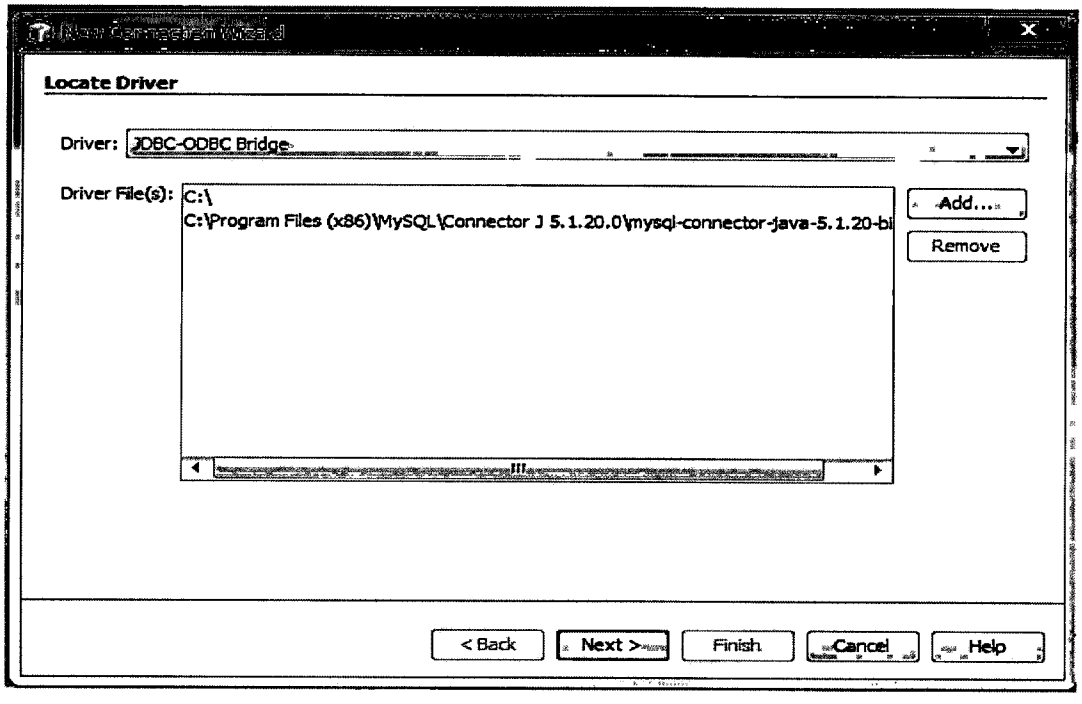


Figure 4. 1 : Configure SQL driver connector

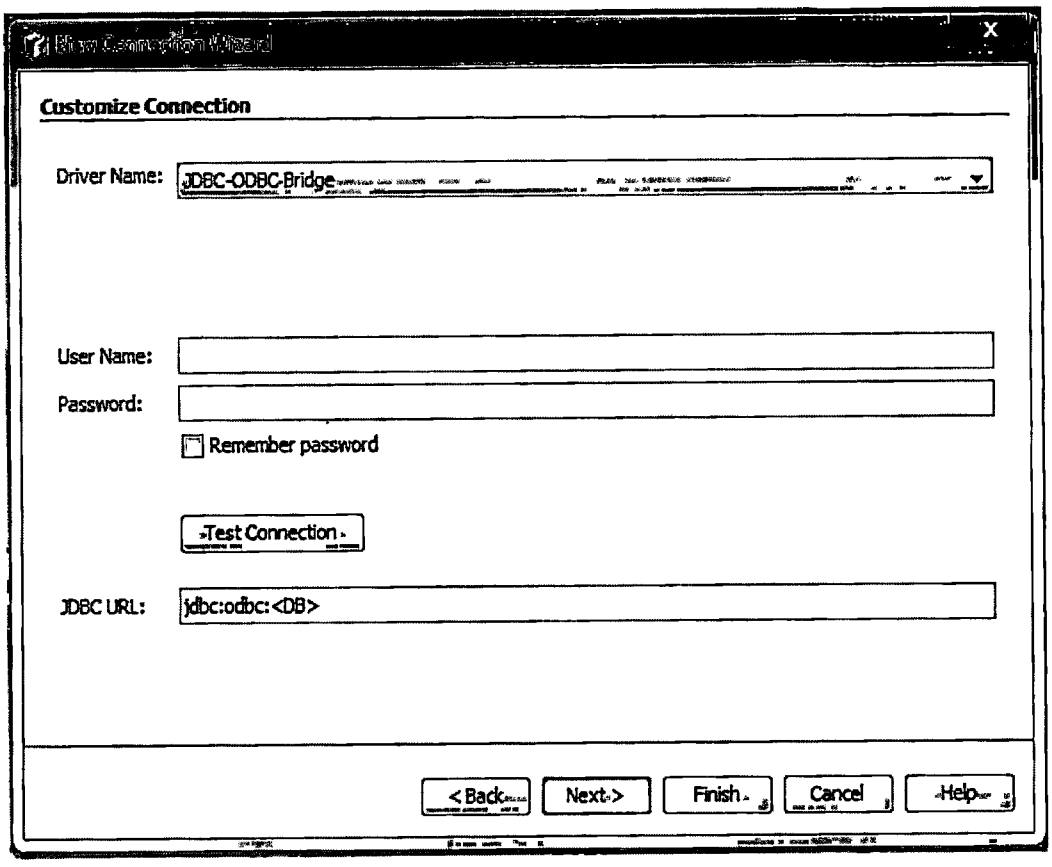


Figure 4. 2 : Test Connection.

4.2.2 Interface Design

4.2.2.1 CCMSManagement Interface

Figure 4.3 show for Login interface for staff and manager. The staff and manager need to enter their username and paswword to gain access in the management system.

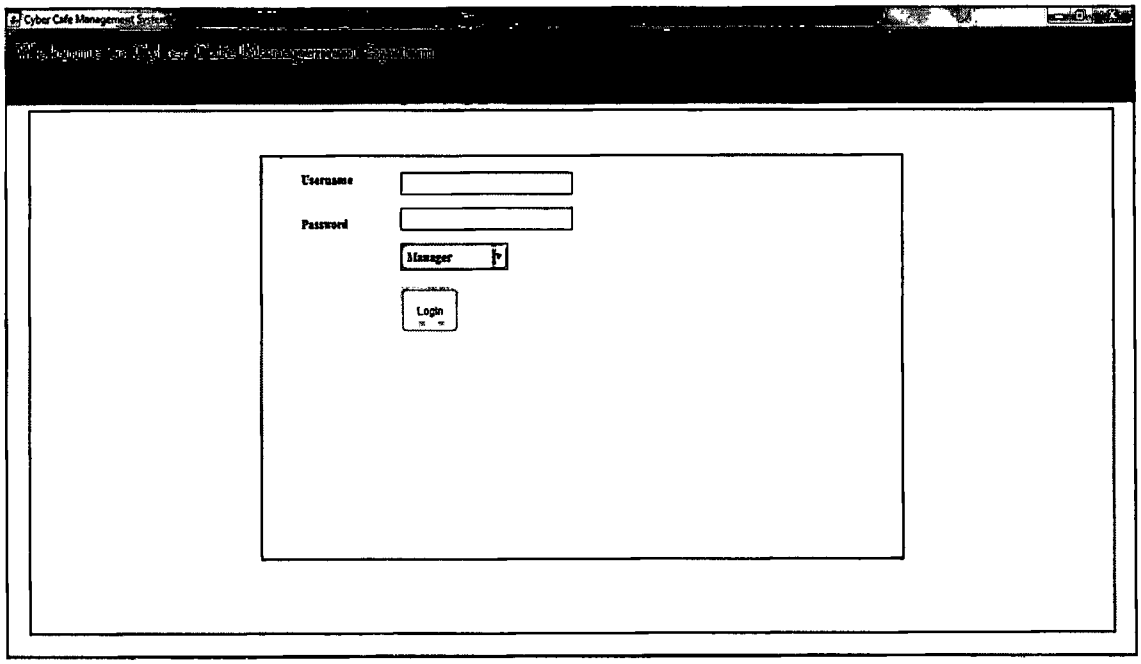


Figure 4. 3 : Login for staff and manager

Figure 4.4 show the management interface for staff. Staff can manage user, manage usage report, manage income statistic and manage pc in this interface. The function for manage user include add,delete, view, update and purchase time block.

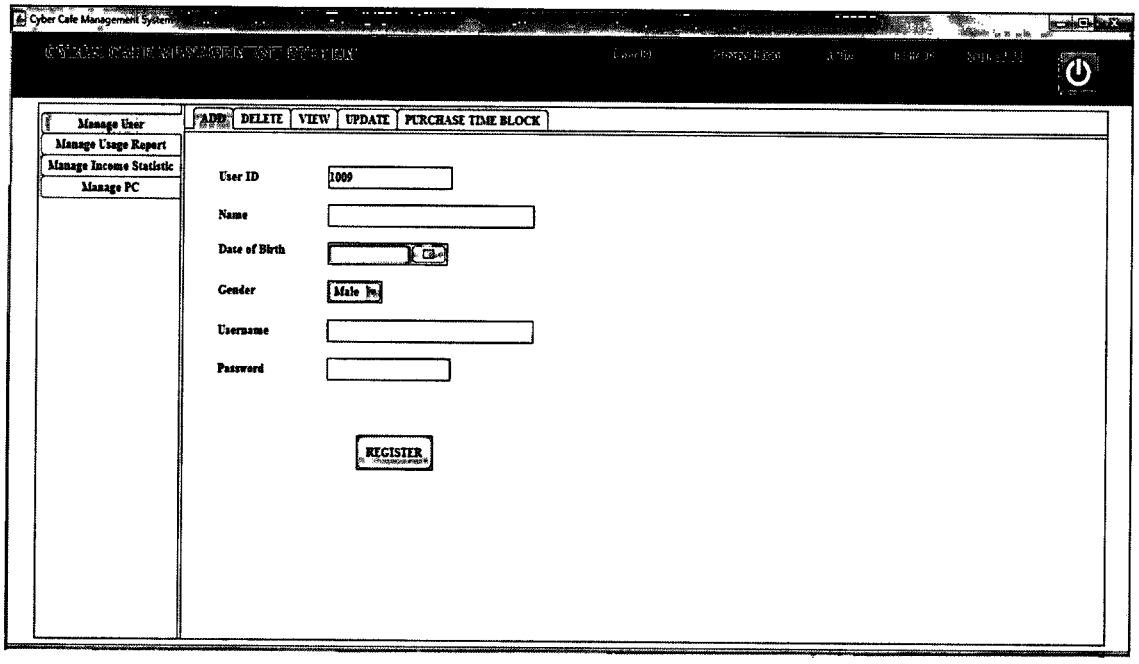


Figure 4. 4 : Staff Management Interface

Figure 4.5 show the management interface for manager. Manager can manage staff, view usage report and income statistic in this interface. The function for manage staff include add, delete, update, and view user.

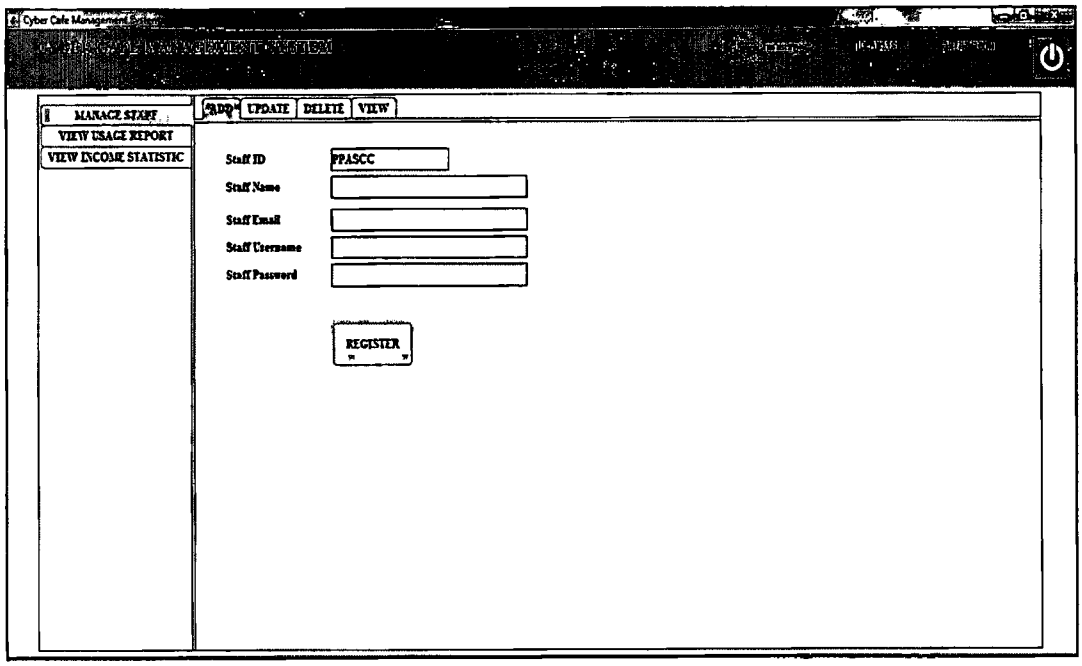


Figure 4. 5 : Manager management interface

4.2.2.2 CCMSClient Interface

Figure 4.6 show the MainPage for the user. User need to to register if they did not have any account yet and can login if they have an account.

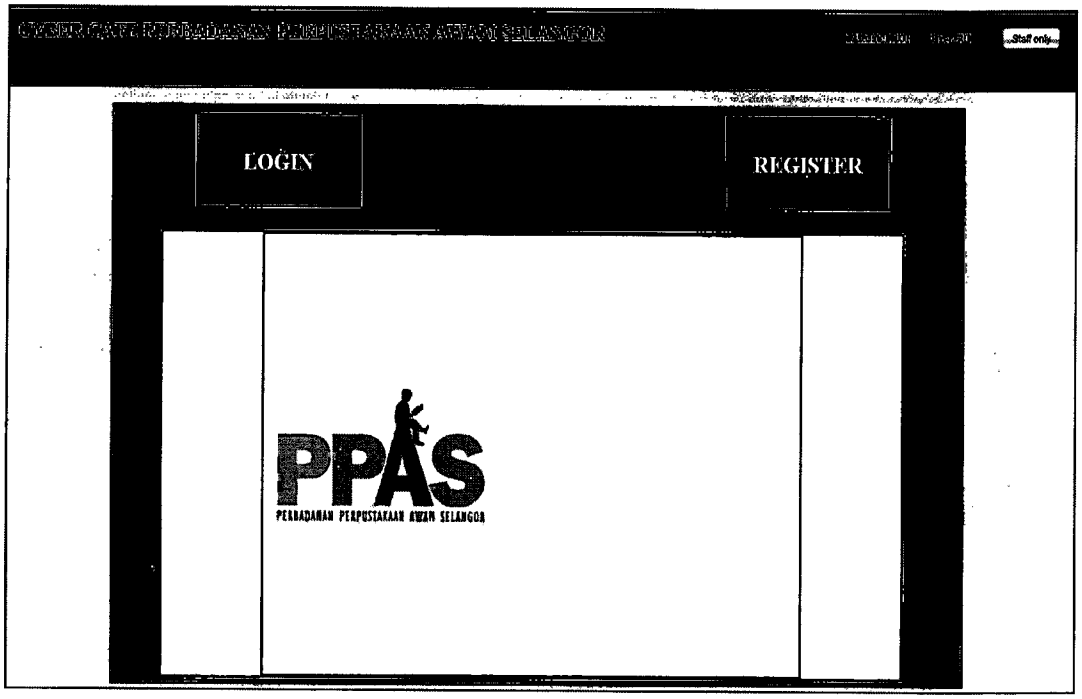


Figure 4. 6 : Customer Main Page

Figure 4.7 show the registration form for the user. User need to fill in their ainformation and the information will be stored in the database.

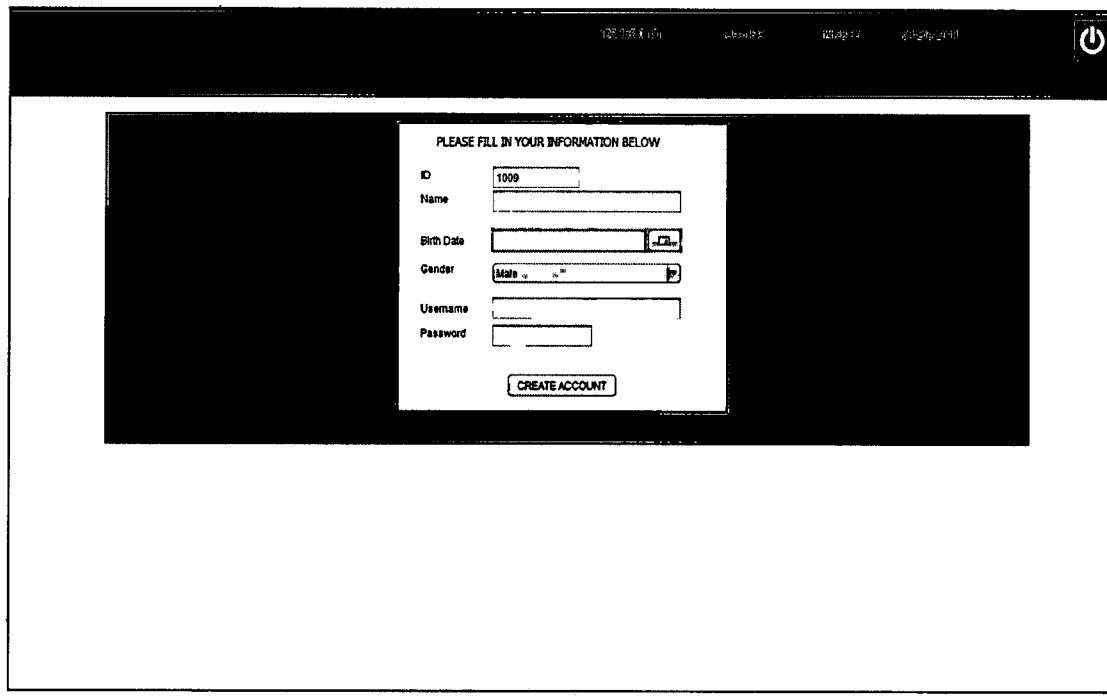


Figure 4. 7 : Customer Register page

Figure 4.8 show the login interface for user. User need to enter username and password that have been register in the system.

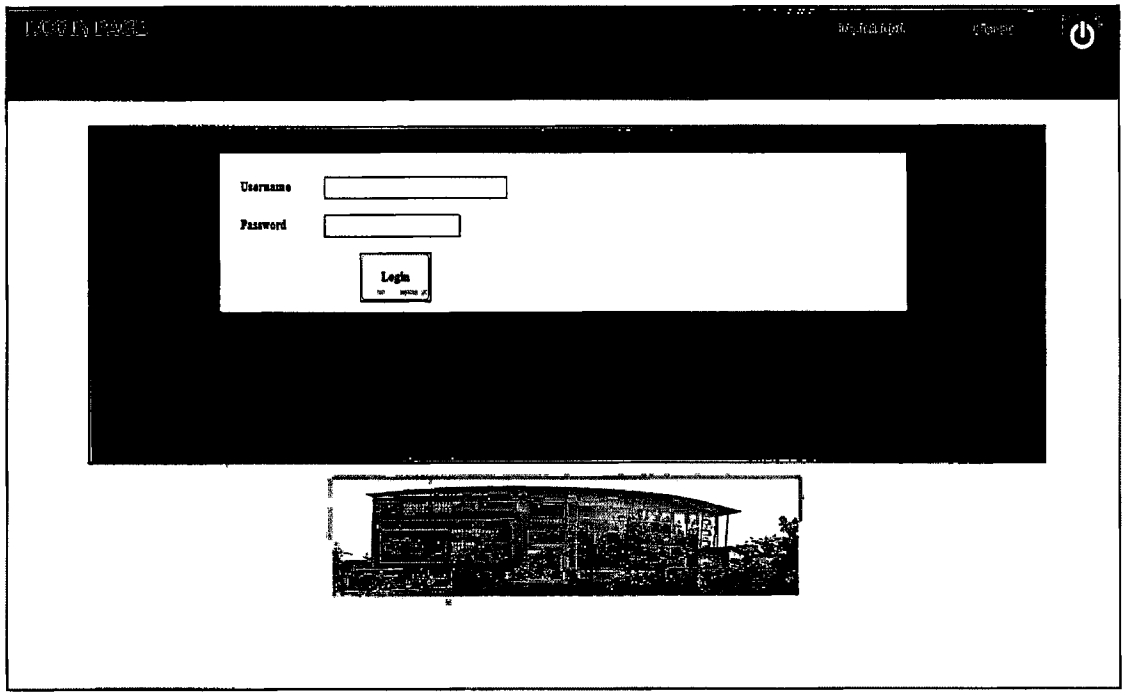


Figure 4. 8 : Customer Login page

Figure 4.9 show the user information before using the pc. The time remaining to use the pc will be viewed in the interface.

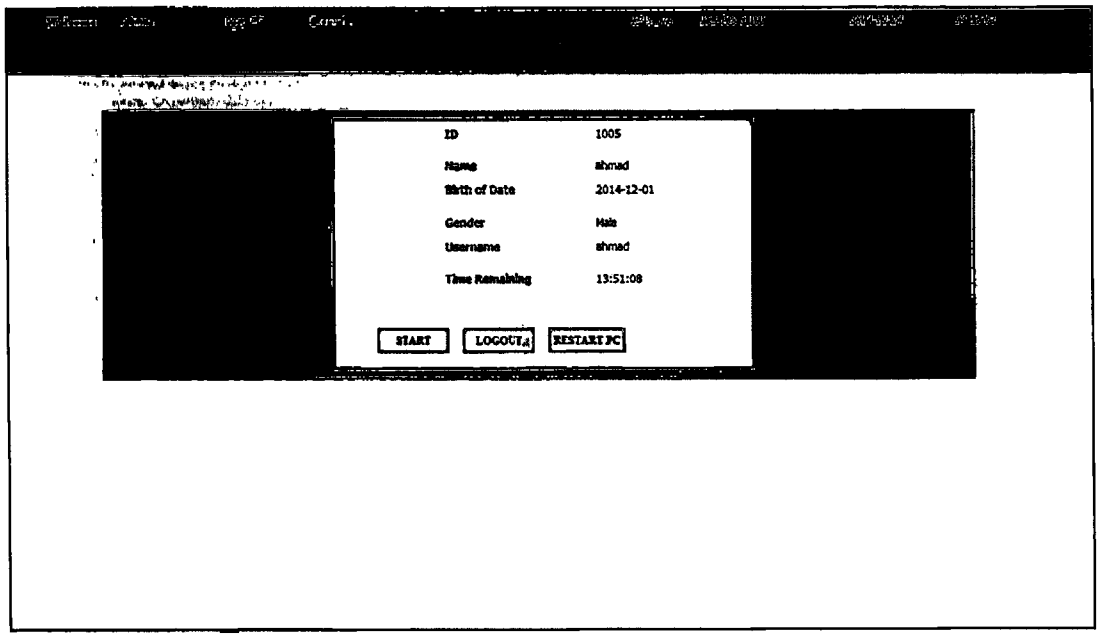


Figure 4. 9 : Customer Start page

Figure 4.10 show the timer interface. The time will coundown until the time is finish. The user can also stop the time by clicking the stop button.

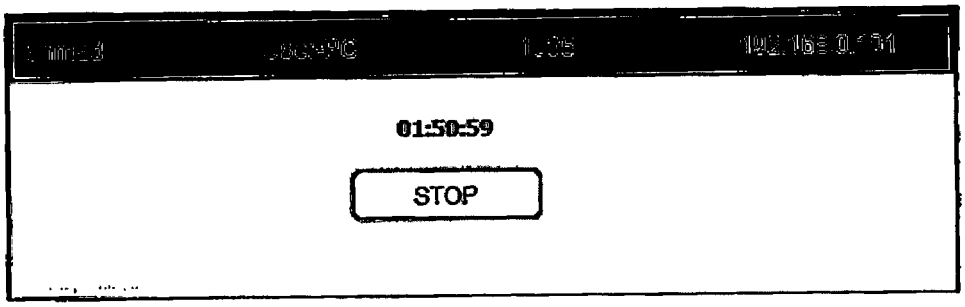


Figure 4. 10 : Customer Time Display

4.3 Coding Structure

4.3.1 Connectivity With All Interface

Figure 4.11 show the coding use for connectivity with all interface.

```
String dbpass = rs.getString(1);
if(dbpass.equals(strpass)){

    new startPage(user).setVisible(true);
    this.dispose();
}
else{
    JOptionPane.showMessageDialog(null, "Login Unsuccessful. Password
```

Figure 4. 11 : Connectivity with interface

4.3.2 Save Information In Database

Figure 4.12 show the coding use to save the information into database.

```
try {
    Class.forName("com.mysql.jdbc.Driver");

} catch (ClassNotFoundException ex) {
    Logger.getLogger(login.class.getName()).log(Level.SEVERE, null, ex);

}
try {
   // Class.forName("com.mysql.jdbc.Driver");
    Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/ccms", "root", "localnetg");
    Statement stmt = con.createStatement();

    String query = "INSERT INTO ccms.customerinfo (custID, custName, custBirthdate, custGender, custUsername, custPassw
    String query1 = "INSERT INTO ccms.timeblock (custID, timeRemaining) VALUES ('"+ id.getText() +"', '00:00:00')";

    stmt.executeUpdate(query);
    stmt.executeUpdate(query1);
    //ResultSet rs = stmt.executeQuery(query);

    JOptionPane.showMessageDialog(null, "New User Added");

    id.setText("");
    name.setText("");
    birthdate.setDate(null);
    username.setText("");
    password.setText("");
    this.dispose();
    new MainPage().setVisible(true);
} catch (SQLException g) {
```

Figure 4. 12 : Save information in database

4.3.3 Export Report into Microsoft Excel

Figure 4.13 show the coding used to export usage report and income report into database

```
public class ExcelExporter {
                public ExcelExporter() { }
                public void exportTable(JTable jTable1, File file) throws IOException {
                        TableModel model = jTable1.getModel();
                        FileWriter out = new FileWriter(file);
                        for(int i=0; i < model.getColumnCount(); i++) {
                        out.write(model.getColumnName(i) + "\t");
                        }
                        out.write("\n");

                        for(int i=0; i< model.getRowCount(); i++) {
                for(int j=0; j < model.getColumnCount(); j++) {
                        out.write(model.getValueAt(i,j).toString()+"\t");
                        }
                        out.write("\n");
                }

                out.close();
                System.out.println("write out to: " + file);
        }
}
```

Figure 4. 13 : Export Report into Microsoft Excel

4.3.4 Countdown Timer

Figure 4.14 show the coding used for coundown timer.

```
t = new Timer(1000, new ActionListener() {
                public void actionPerformed(ActionEvent e) {
                    Object timeStop = "00:00:00";
                    Object timeWarning = "00:10:00";
                    jLabel1.setText(df.format(count));
                    if(jLabel1.getText().equals(timeWarning)){
                    JOptionPane.showMessageDialog(null, "Your have 10 more minute. Please top up to continue using
                    count -=1000;
                    }
                    else if(jLabel1.getText().equals(timeStop)){
                    jLabel1.setText("00:00:00");

                        //count -= 0;

                    //JOptionPane.showMessageDialog(null, "Times up. Please contact admin to add more time");
                   if(jLabel1.getText().equals("00:00:00")){
                        String user = jLabel3.getText();
            t.stop();
            try {
                Class.forName("com.mysql.jdbc.Driver");

            } catch (ClassNotFoundException ex) {
                Logger.getLogger(TimeDisplay.class.getName()).log(Level.SEVERE, null, ex);

            }
```

Figure 4. 14 : Countdown Timer

CHAPTER 5

RESULT AND DISCUSSION

5.1 Introduction

In this chapter, all the output for the system will be discussed. The outcome, assumption and further research about this system also discussed in this chapter. Hopefully, the discussion can bring ideas and more benefits to the future developer in order to upgrade and enhance the performance and functionality of the system in future.

5.2 Result Analysis

The proposed system, Cyber Cafe Management System (CCMS) has met all the objectives of this project, which are:

4. To develop a prototype management system for Cyber Cafe at Perbadanan Perpustakaan Awam Selangor.

5. To develope application that can generate the income statistic.

6. To develop application that can produce the usage report.

5.3 Result of the System

Cyber Cafe Management System(CCMS) is a stand-alone application. This system is generally for cyber cafe staff and the customer. For implementation, this system has developed by using prototyping methodology based on its practical and realistic method. System prototype has given the outputs that were expected. System testing was done by module to sub modules. Results from the testing are as follows.

5.3.1. Add new staff

When the manager add new staff information, the staff information will be add into the database.

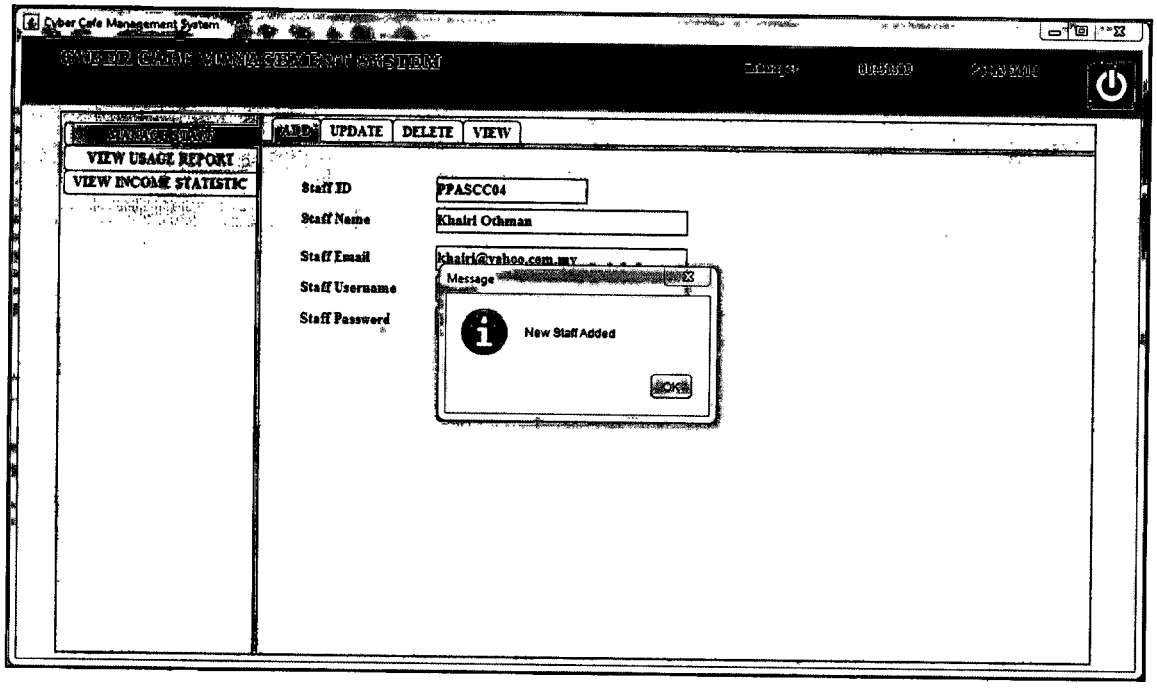


Figure 5. 1 : Add new staff interface

5.3.2 Update staff information

When manager want to update staff information, the information in the database will be updated.

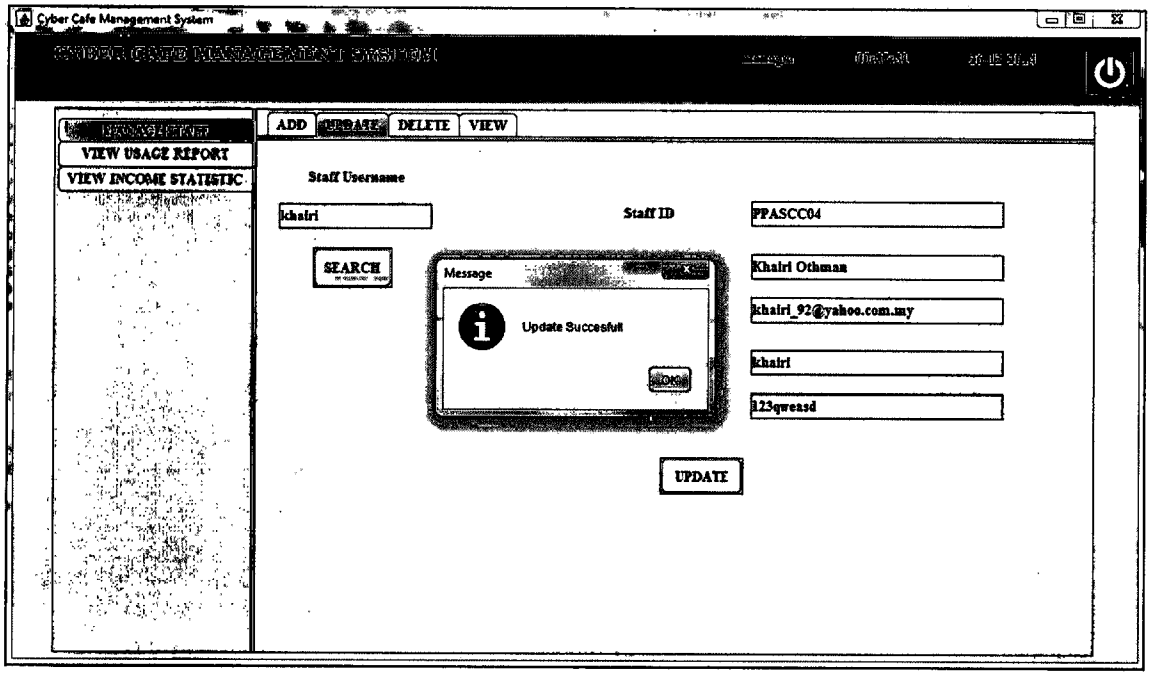


Figure 5. 2 : Update staff information

5.3.3 Delete staff information

When the manager want to delete staff information, staff information in the database will be deleted.

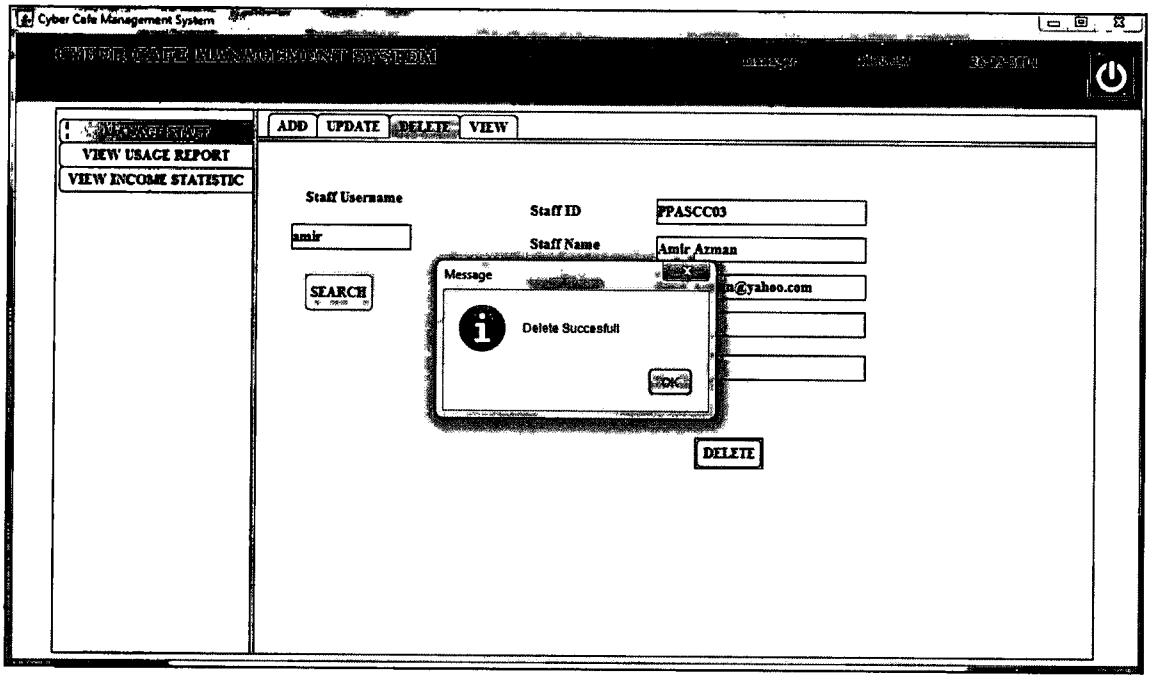


Figure 5. 3 : Delete staff information

5.3.4 View Staff

When the manager want to view staff information, staff information will be show in the table.

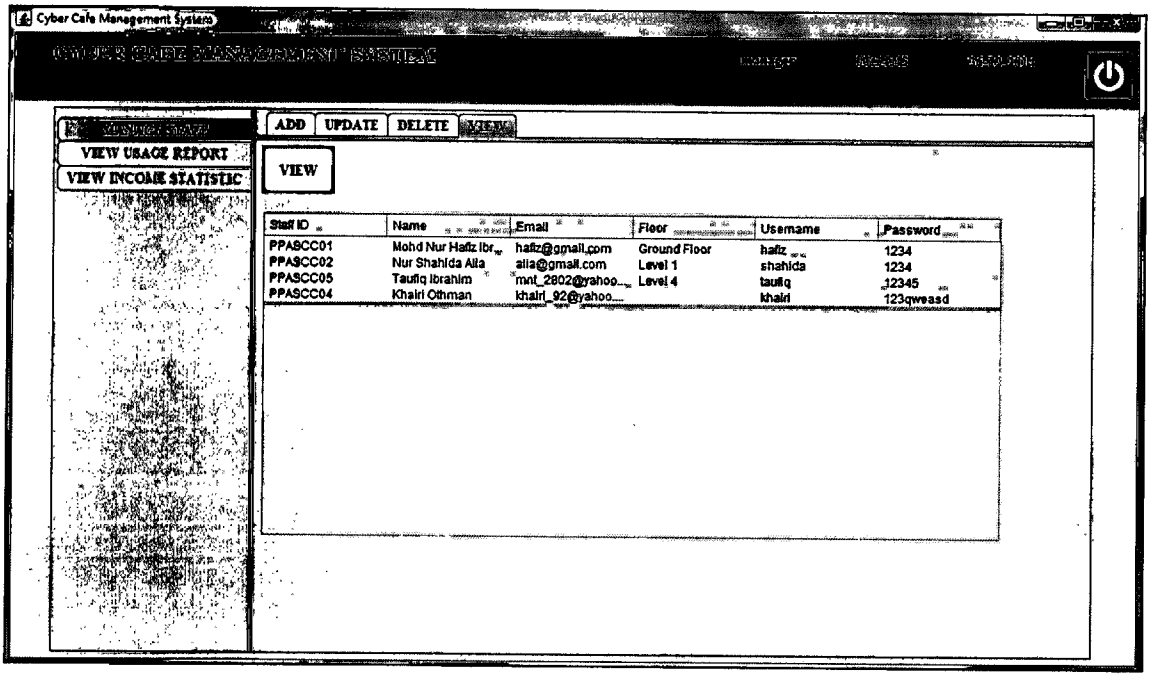


Figure 5. 4 : View staff interface

5.3.5. View usage report

When the manager choose month and year for usage report, the report will be viewed in the table.

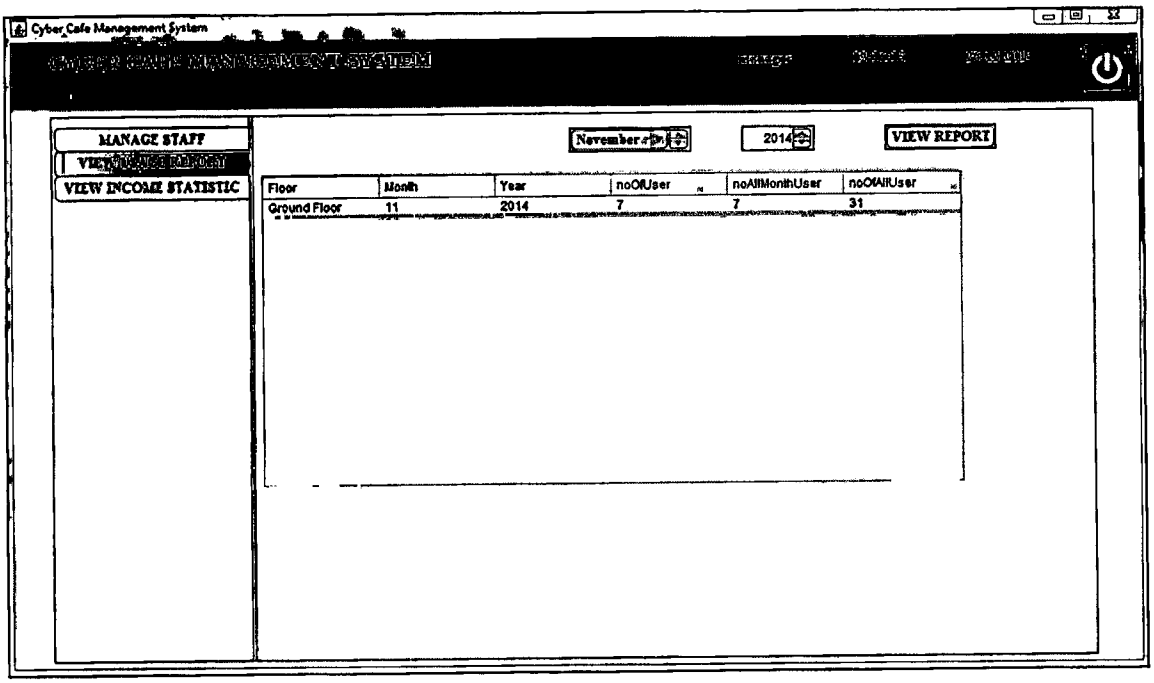


Figure 5. 5 : View usage report interface

5.3.6. View income statistic

When the staff want to view the income statistic, the report will be show in the table.

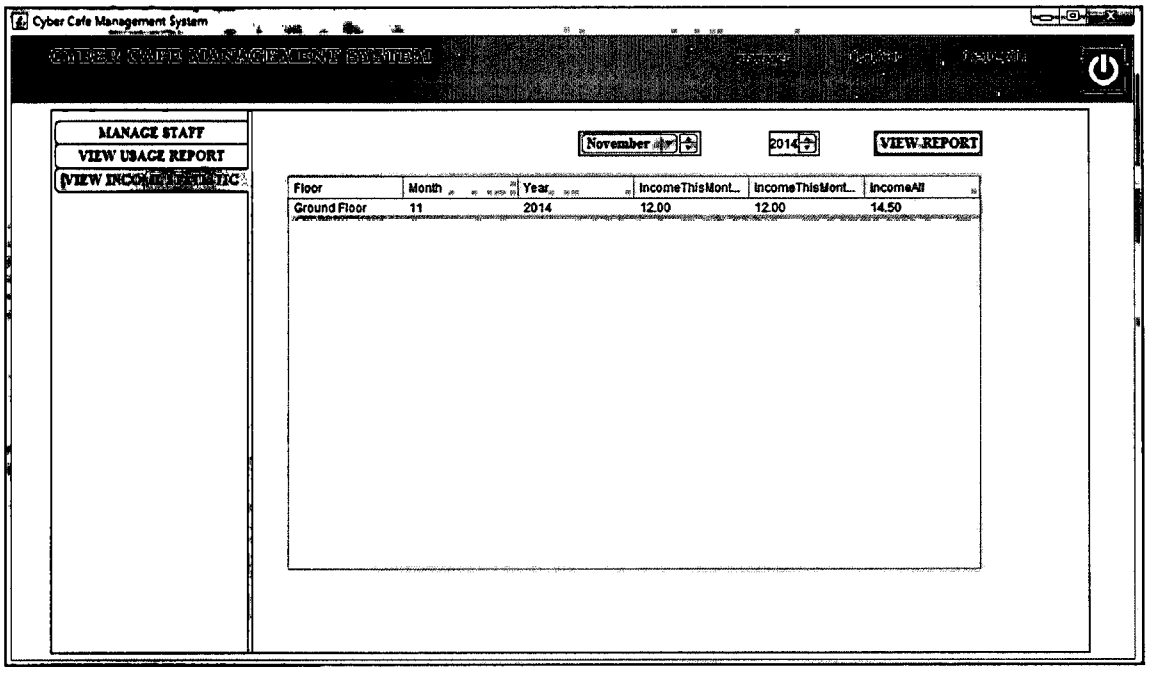


Figure 5. 6 : View income statistic interface

5.3.7 User Register

When user register, their information will be added into the database.

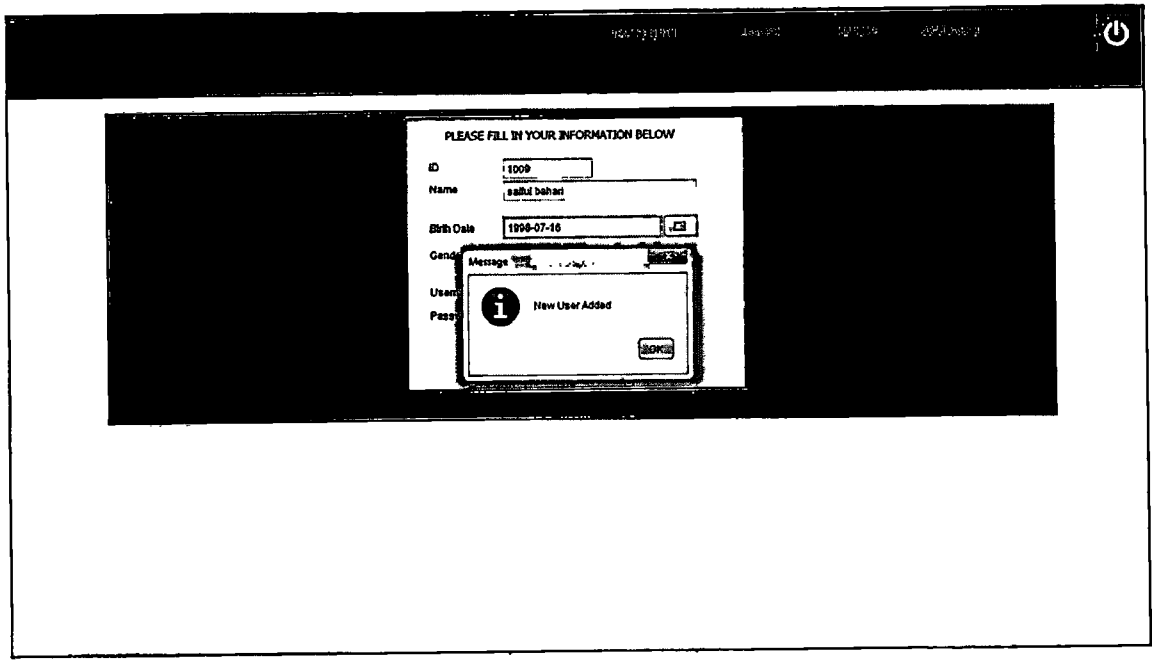


Figure 5. 7 : User register interface

5.3.8 User purchase time

When user purchase time, their time will be added when the login into the system.

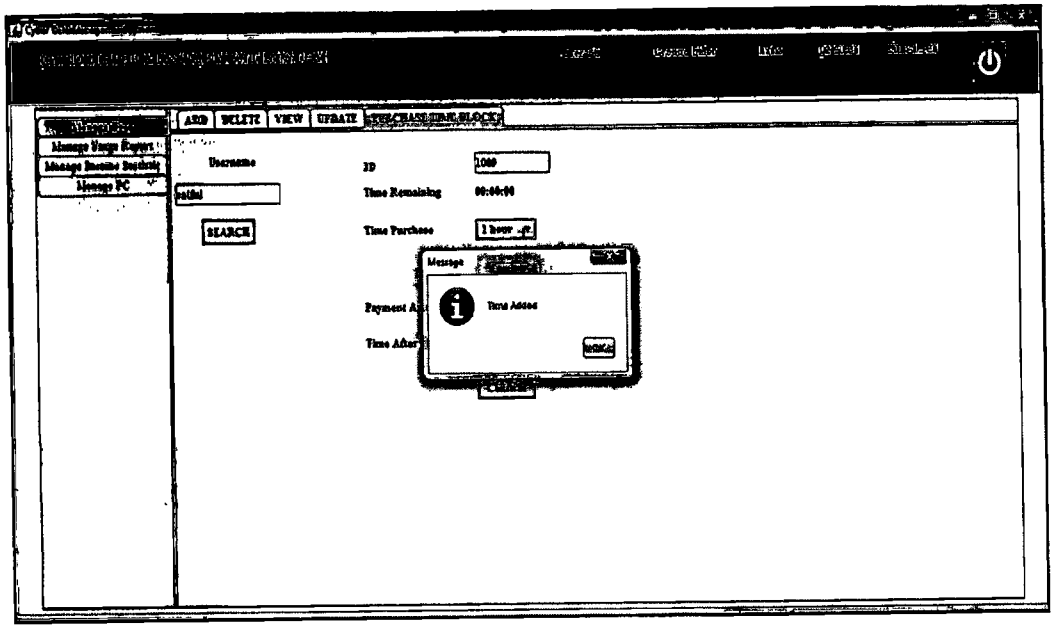


Figure 5. 8 : Staff add time to user account

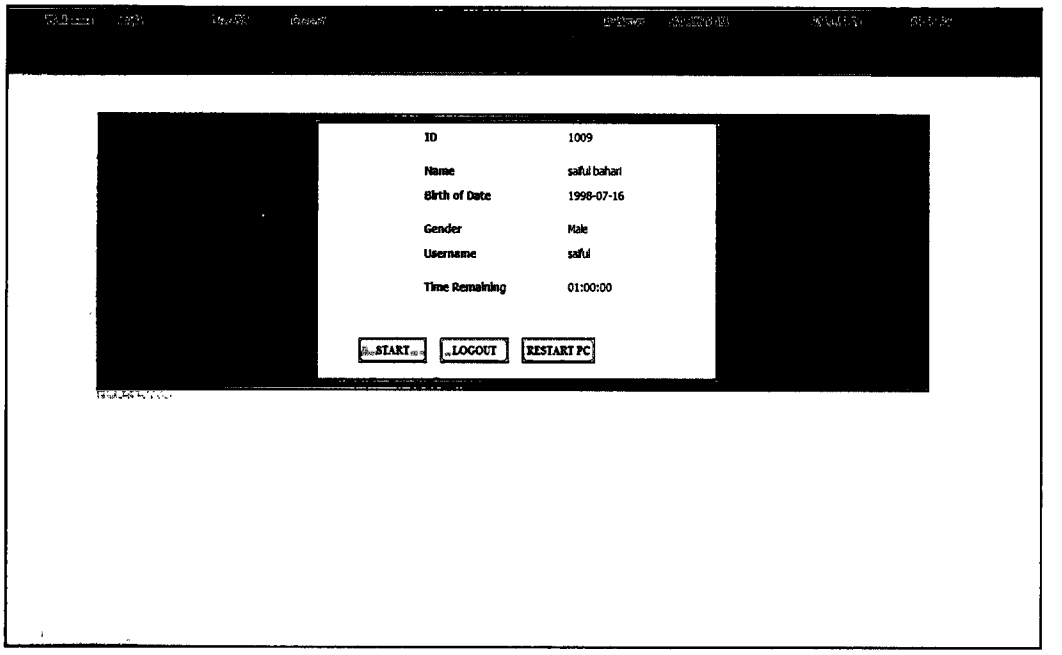


Figure 5. 9 : Start page for user interface

5.3.9 Staff manage usage report

When user click view button, the usage for the month and year will be view on the interface.

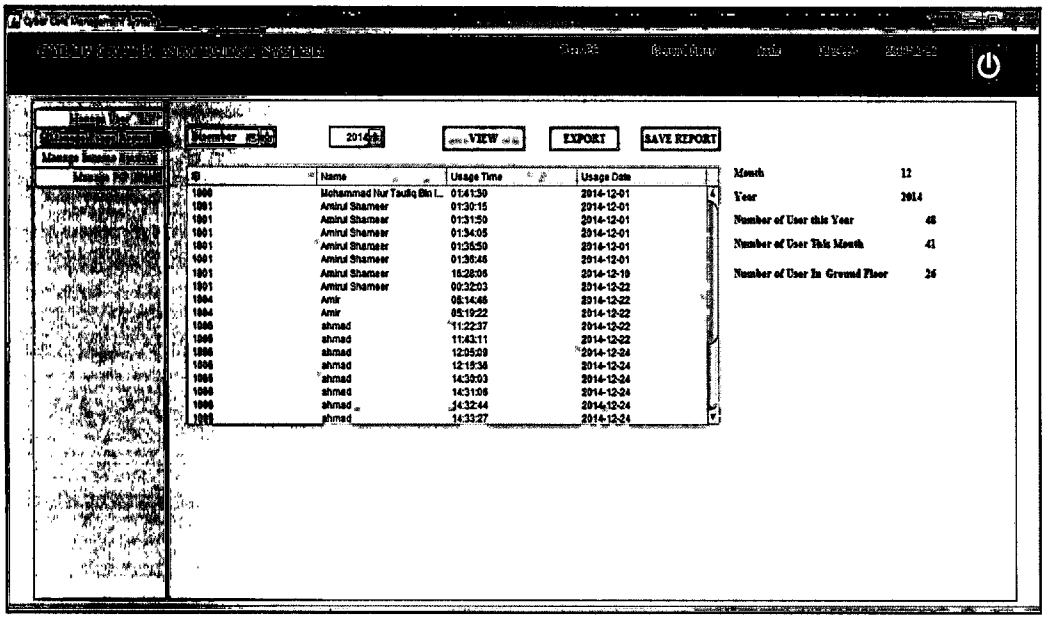


Figure 5. 10 : Manage Usage Report interface

5.3.10 Staff view income report

When the staff click view button, the income statistic will be view on the interface.

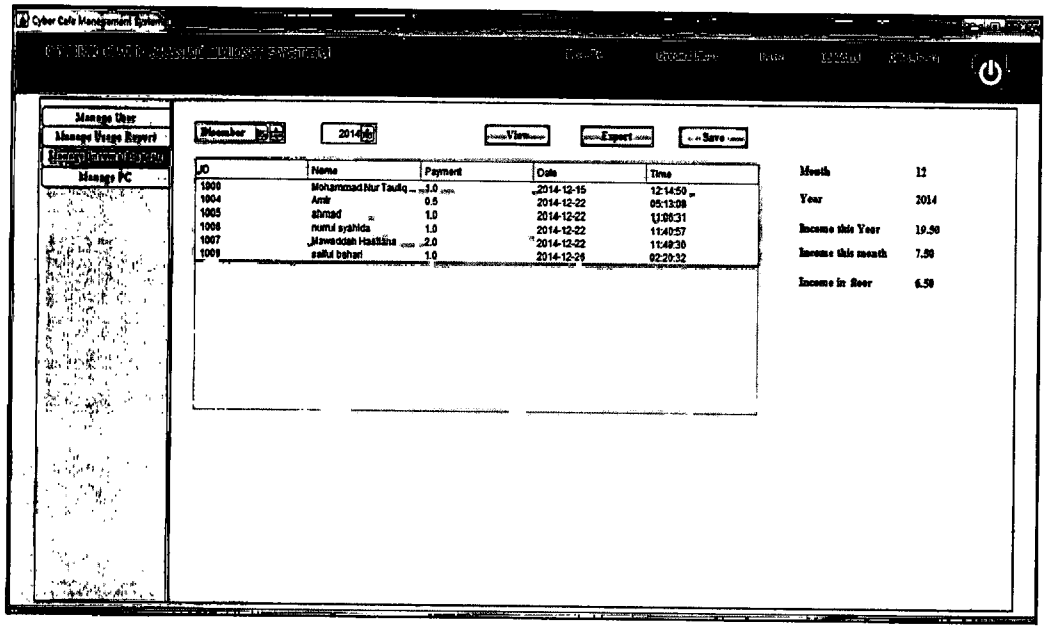


Figure 5. 11 : Manage income statistic interface

5.3.11 Staff manage pc

When staff click pc list button, pc list on that floor wil be view in the list place.

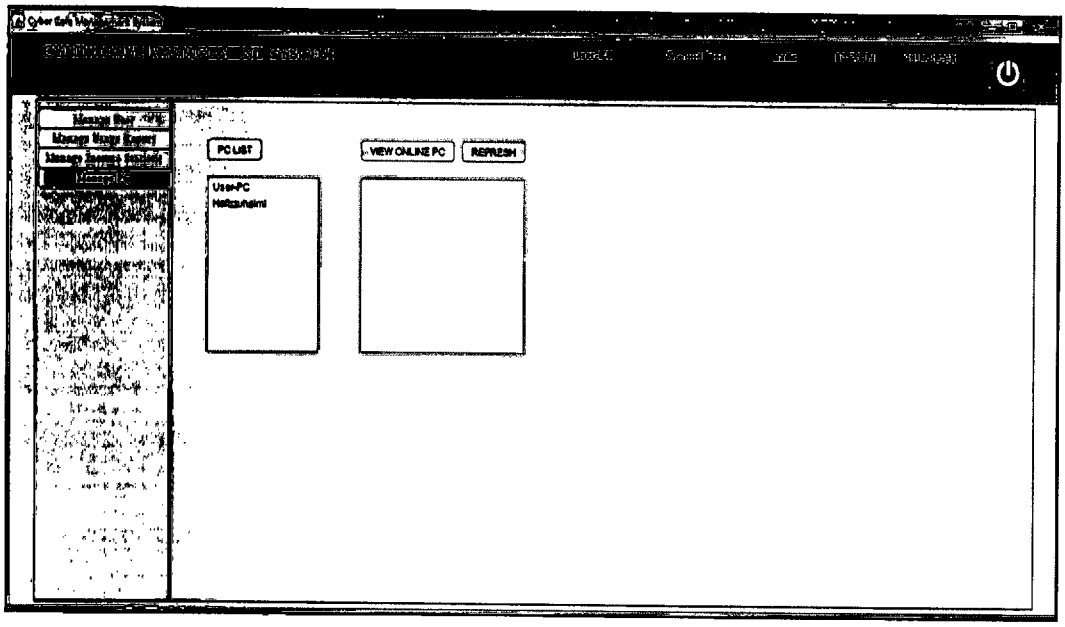


Figure 5. 12 : Manage PC interface.

5.3.12 Time countdown

When the customer start using the pc, the time will coundown until the time is stopped or the the customer press stop button and the system will automatically close the window interface.

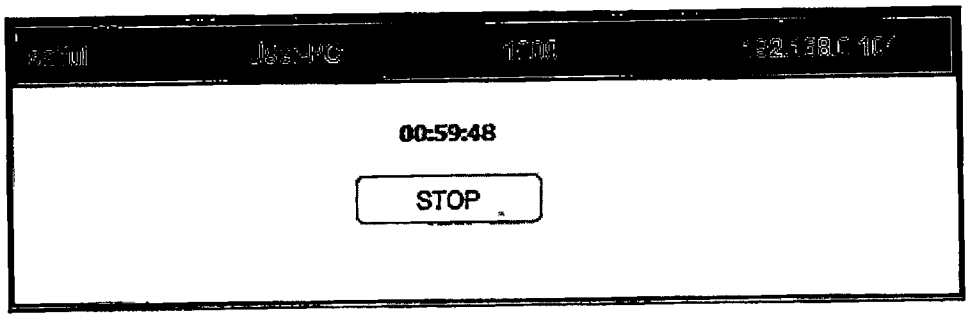


Figure 5. 13 : Time Display

5.4 System Testing

System testing is a process of performing a variety of tests on a system to explore functionality or to identify problems. Other than that it is also to verify that a program or system is ready for production. System testing usually required before and after a system is put in place. Refer Appendix C for the system testing.

5.5 Advantage and disadvantage

The advantage of this system are:

1. Safe money. The customer can only use the pc only within the time the purchase. If the time purchase have balance, they can use it another time becase the time remaining will be stored in the database.
2. Safe energy. The customer does not need to fill in the paper form and the staff does need to key in the cutomer information into microsoft excel every month.

The disadvantage of this system are:-

1. The staff cannot fully control pc such as shutdown, restart and lock pc.
2. Staff also cannot view what users doing on the pc.

5.6 Future Work

Although this system already fulfill the objectives, scope and purpose successfully, but it still have some limitation. There are some constraints of the system:

1. The staff cannot fully control pc such as shutdown, restart and lock pc.
2. Staff also cannot view what users doing on the pc.

CHAPTER 6

CONCLUSION

There are six (6) chapters all together in this thesis which is Introduction, followed by Software Requirement and Specification, Software Design Document, Implementation, Result and Discussion and finally Conclusion of the entire system. Each chapter describes the development or implementation process.

The purpose of this study is to develop a Cyber Cafe Management System (CCMS) prototype system . The main objective of the CCMS is to save user information in database, develop prototype system that can create usage report and generate income statistic. Other than that, it can view the pc list in the library.

CCMS have been developed using Netbeans IDE 7.3 and MySQL Workbench as the database. This implementation phase, it is used Protorping model that consist six (6) phase which is Requirement Gathering, Quick Design, Building Prototype, Evaluate and Refine AND Engineering Product. This life cycle has been used because the system can be show to the client and can keep adding requirement from time to time.

Hopefully, this system will help the staff and user in the cyber cafe.

Reference

[1] Software Requirement Specification
http://techwhirl.com/writing-software-requirements-specifications/ [Retrieve on 09 May 2014]

[2] How to write SRS
http://www.microtoolsinc.com/Howsrs.php [Retrieve on 09 May 2014]

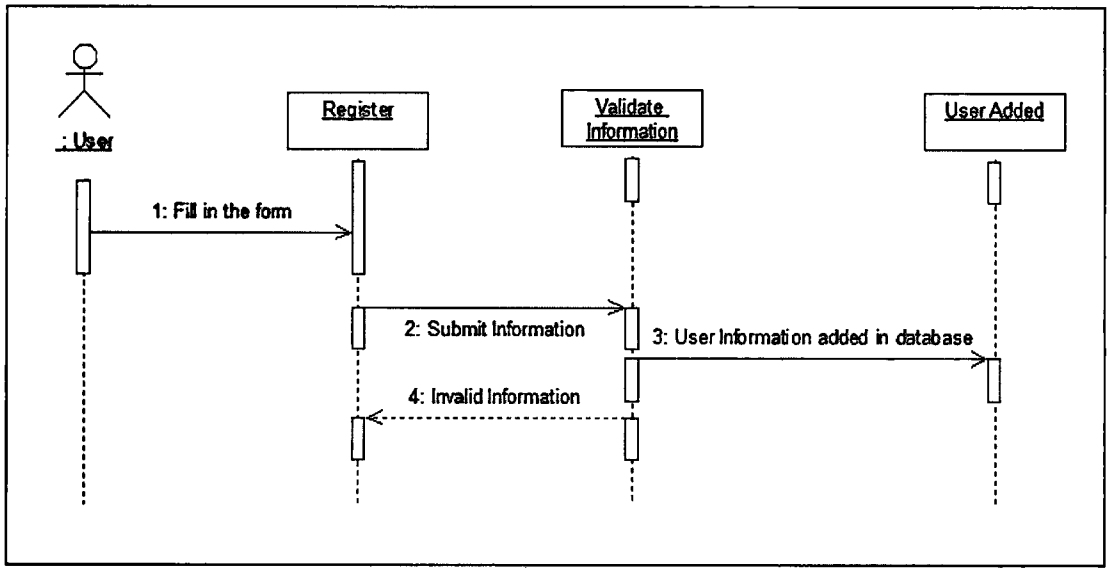
[3] Software Design Document
http://www.toptal.com/freelance/why-design-documents-matter [Retrieve on 13 May 2014]

[4] Class Diagram
http://www.ibm.com/developerworks/rational/library/content/RationalEdge/sep04/bell/ [Retrieve on 10 May 2014]

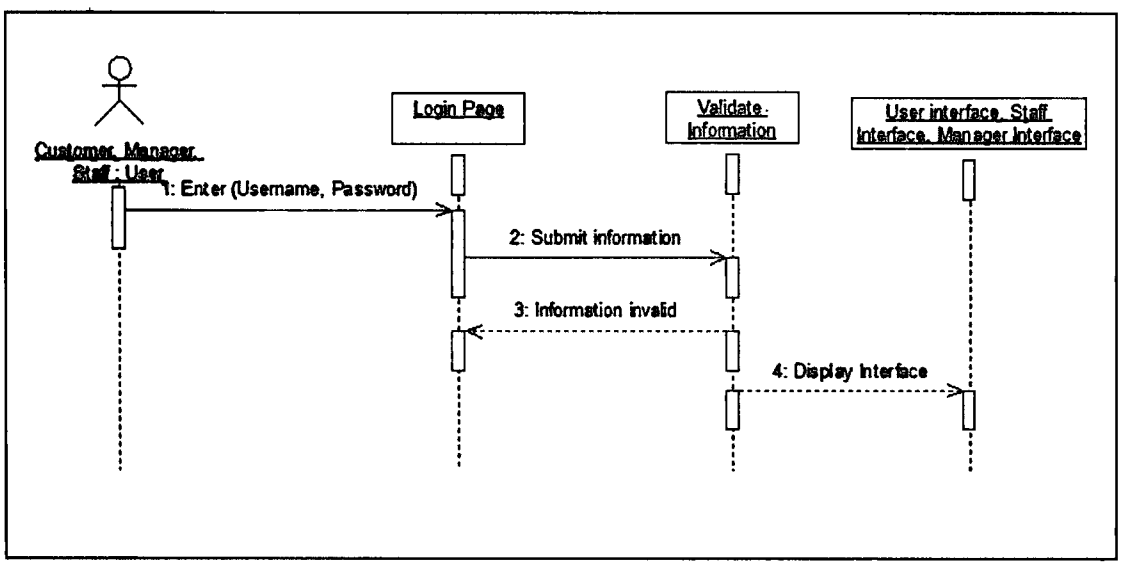
[5] Model View Controller
http://msdn.microsoft.com/en-us/library/ff649643.aspx [Retrieve on 10 May 2014]

Appendix A

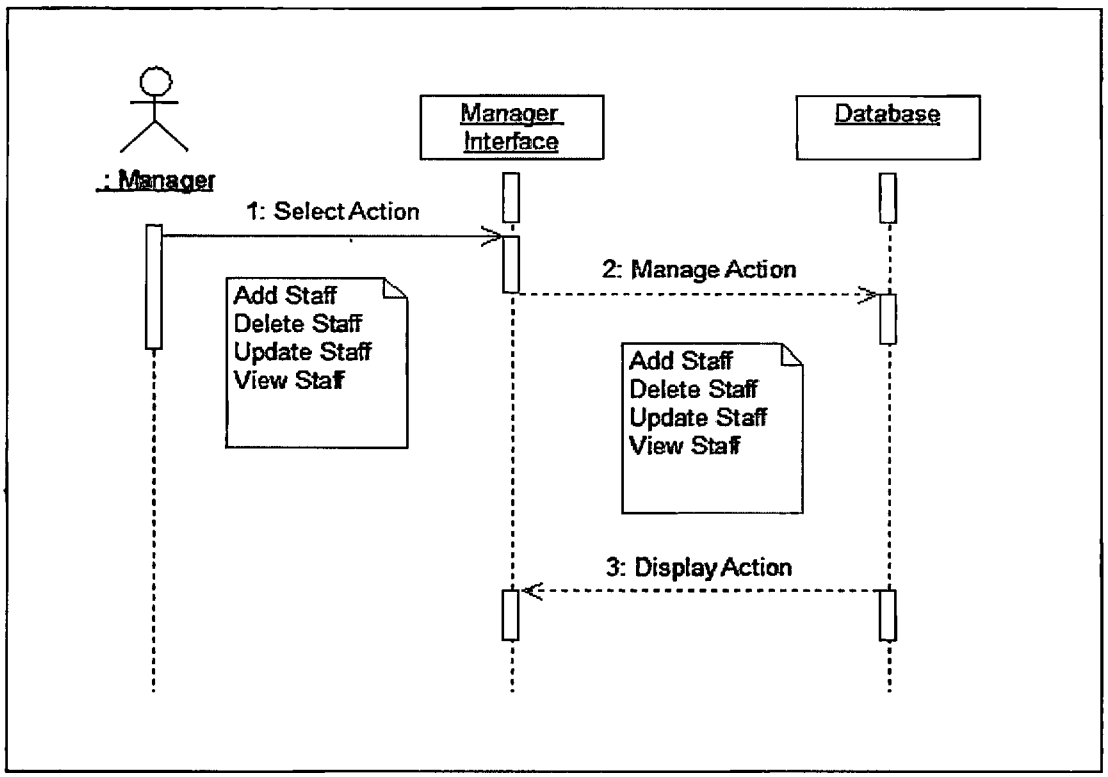
Sequence Diagram



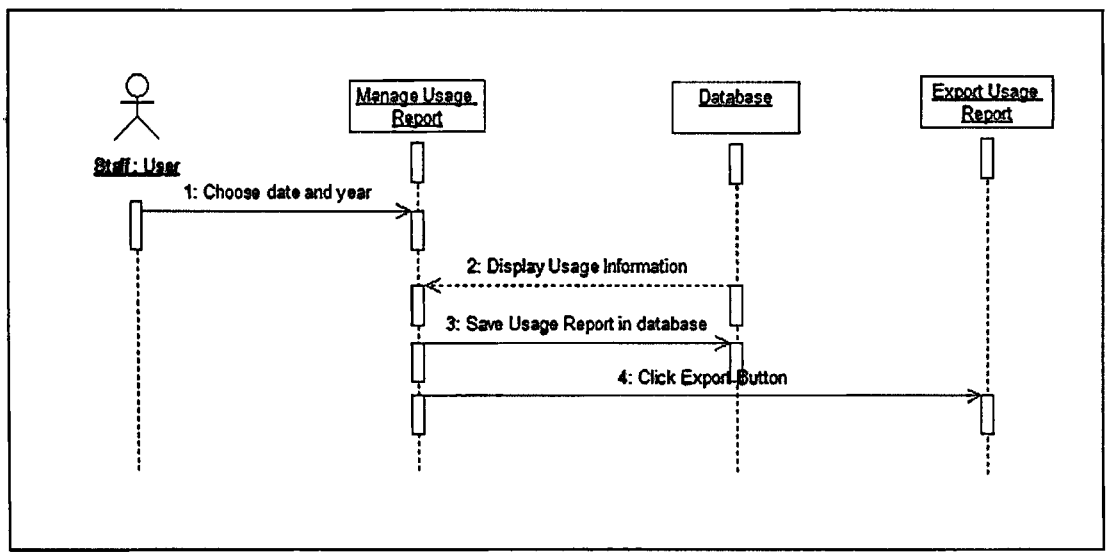
Appendix A-1.1: Register sequence diagram



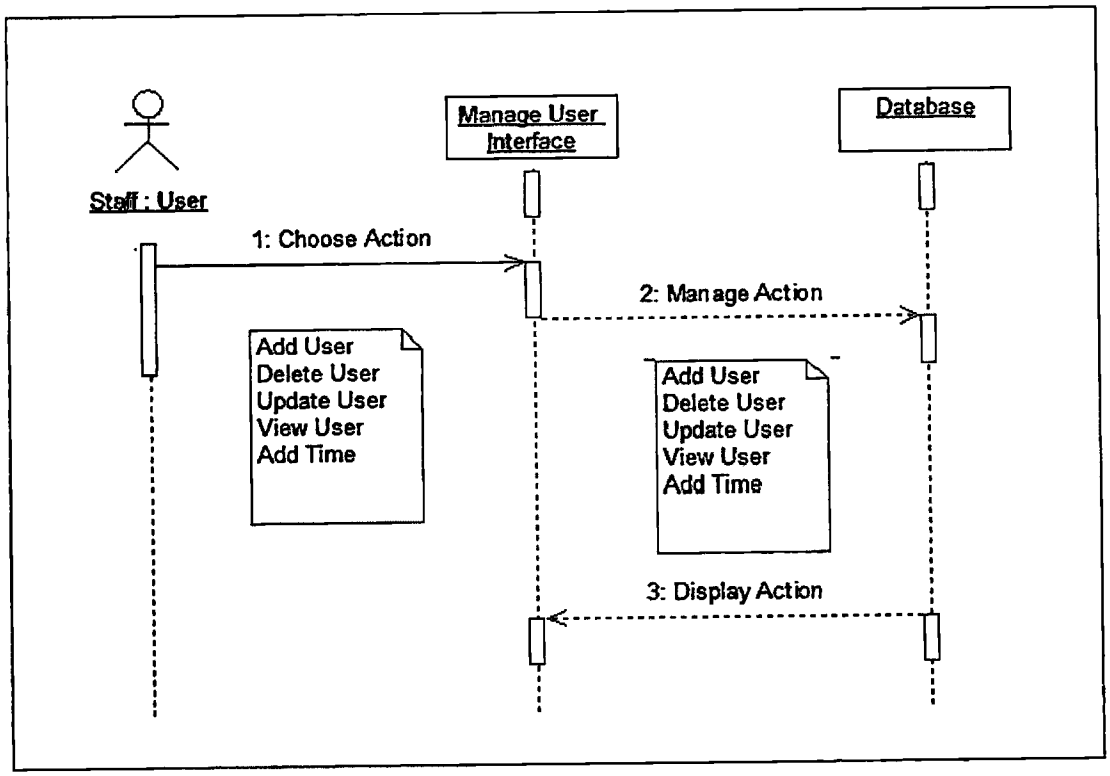
Appendix A-1.2: Login sequence diagram



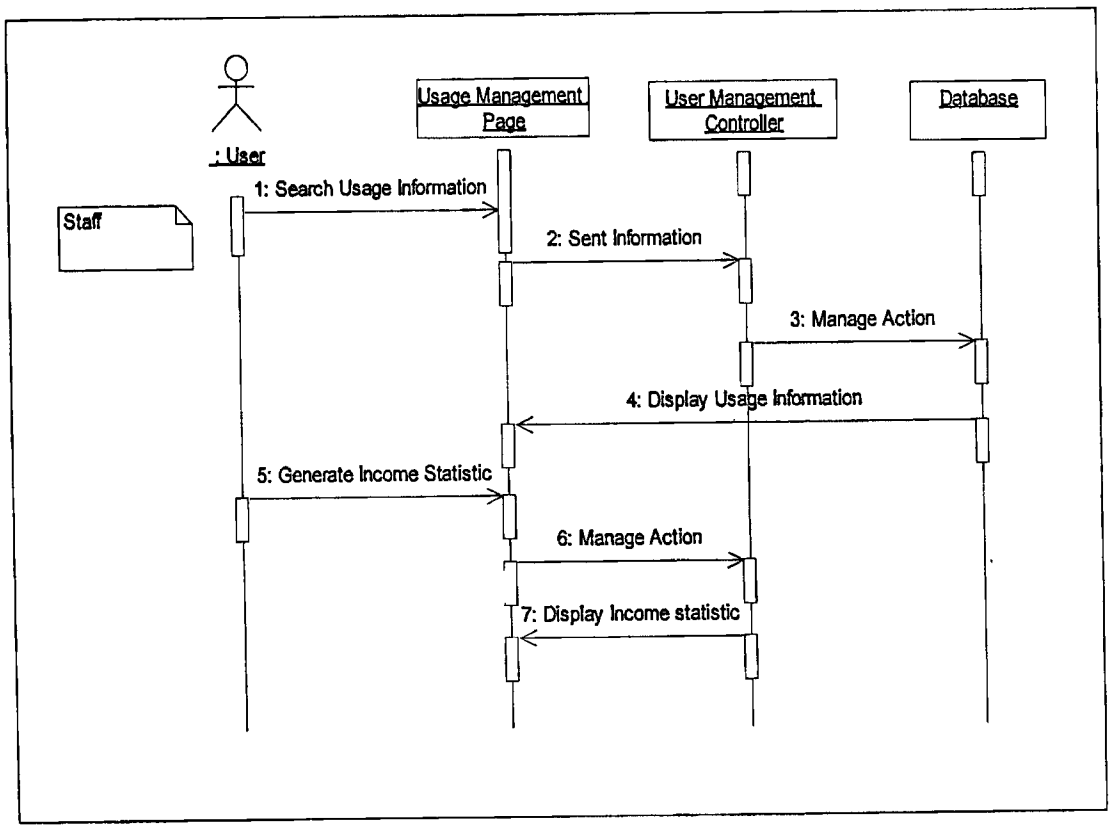
Appendix A-1.3: Manage Staff sequence diagram



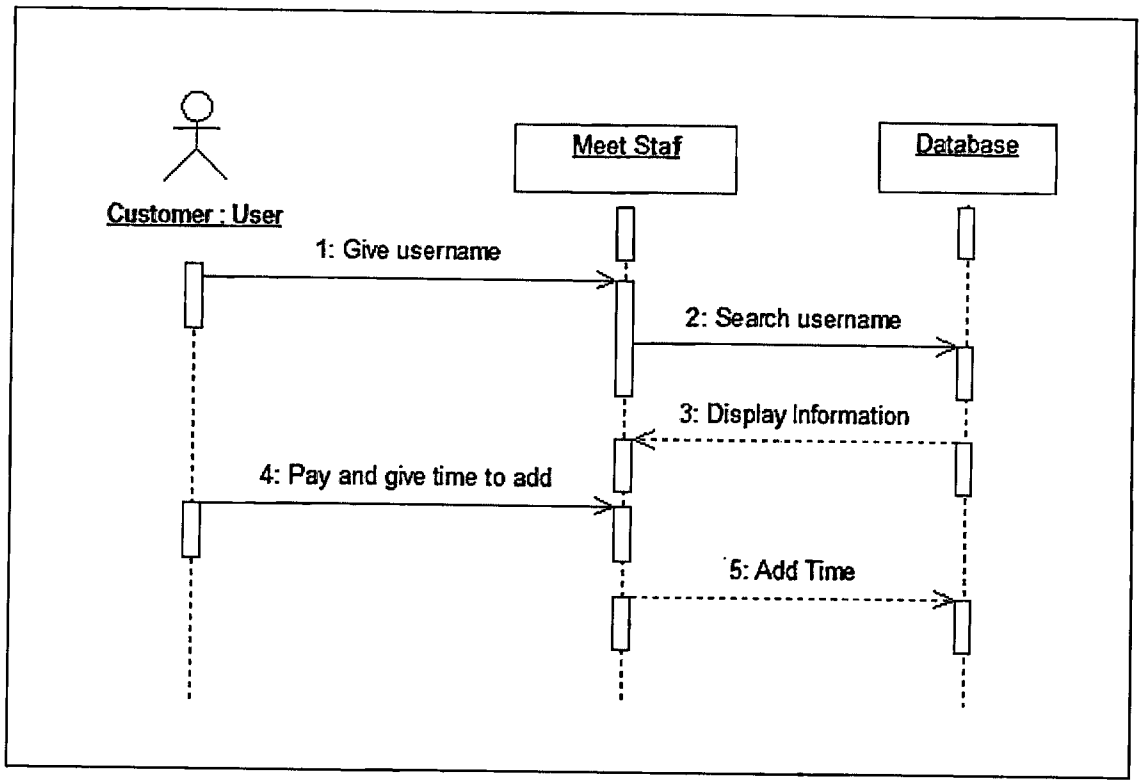
Appendix A-1.4: Manage Usage Report sequence diagram



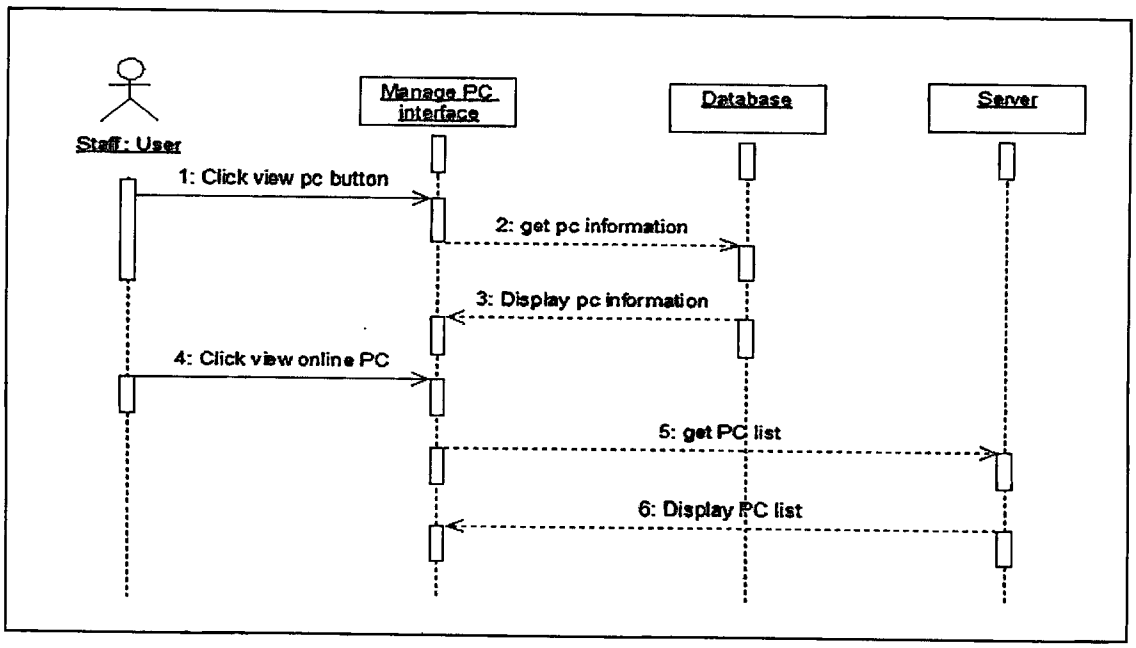
Appendix A-1.5: Manage User sequence diagram



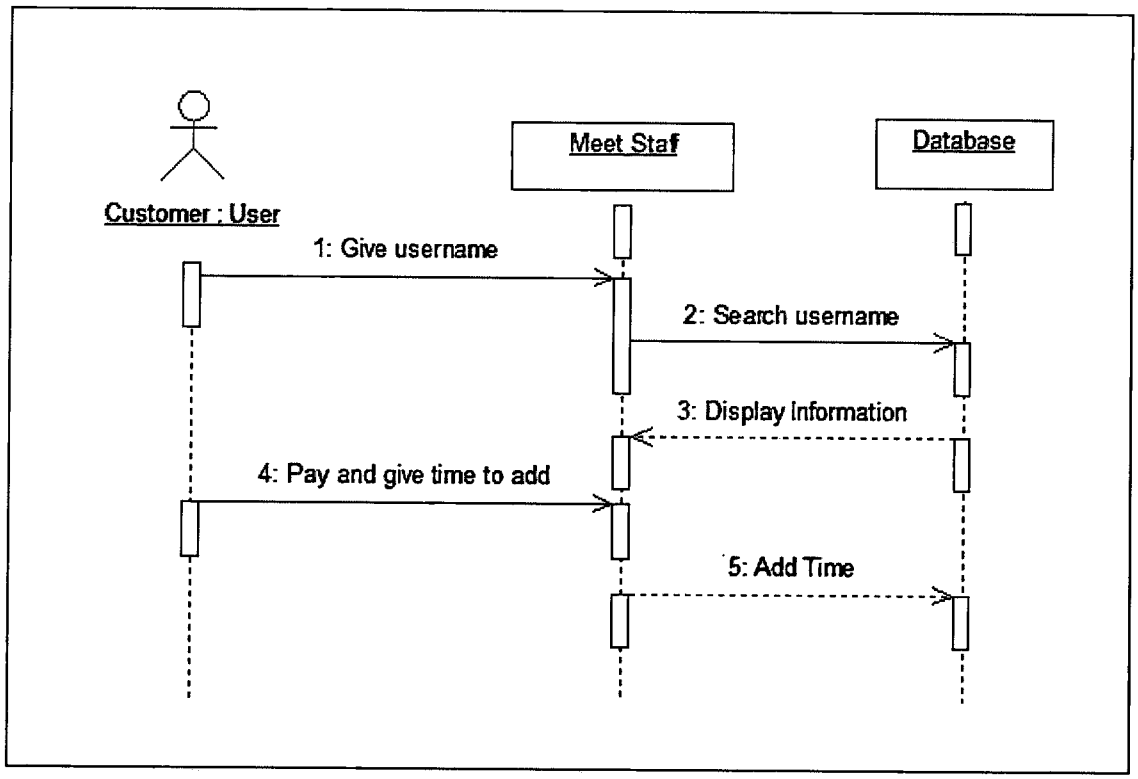
Appendix A-1.6: Generate Income Statistic sequence diagram



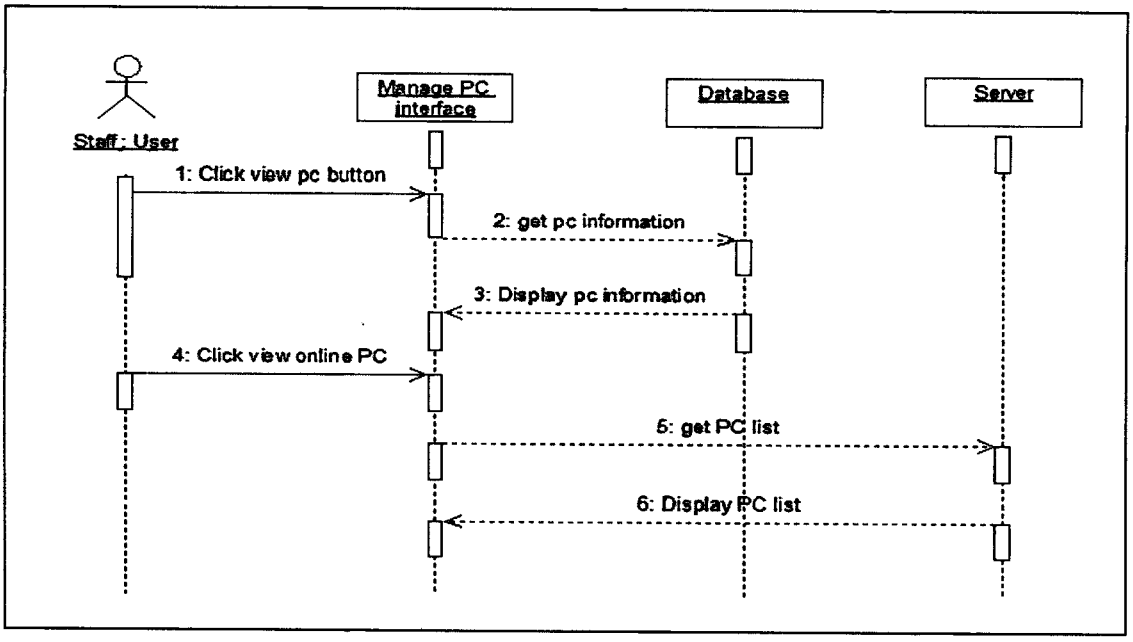
Appendix A-1.7: Top up Account sequence diagram



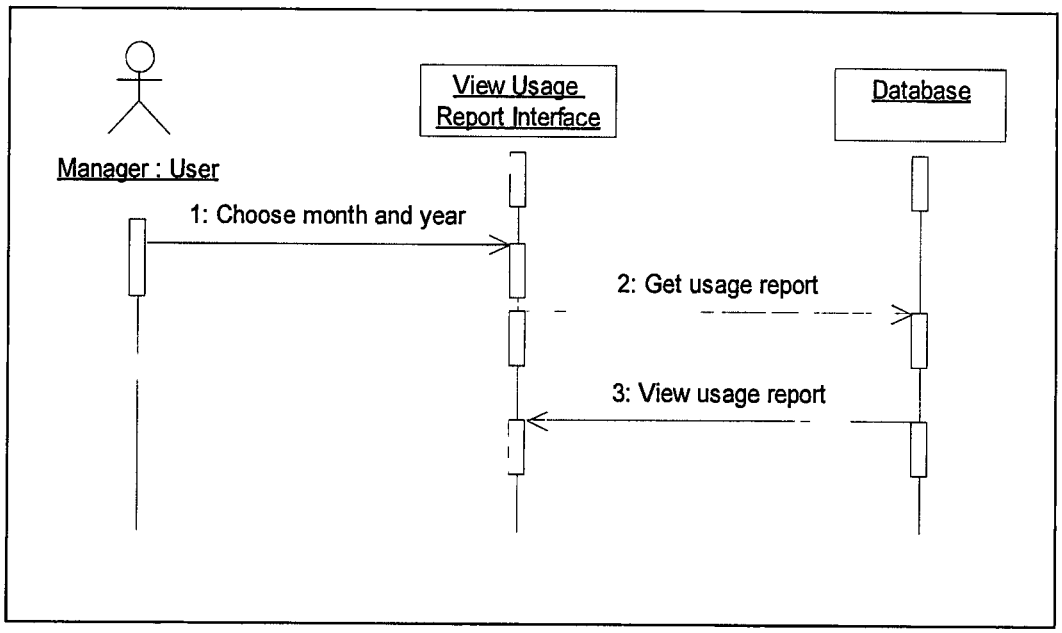
Appendix A-1.8: Manage PC sequence diagram



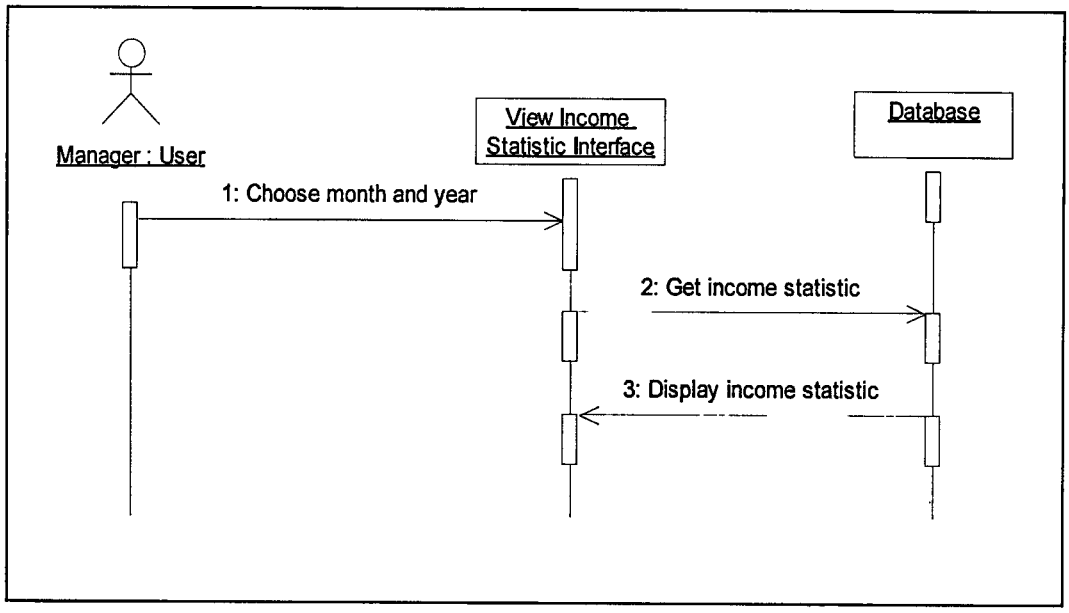
Appendix A-1.7: Top up Account sequence diagram



Appendix A-1.8: Manage PC sequence diagram



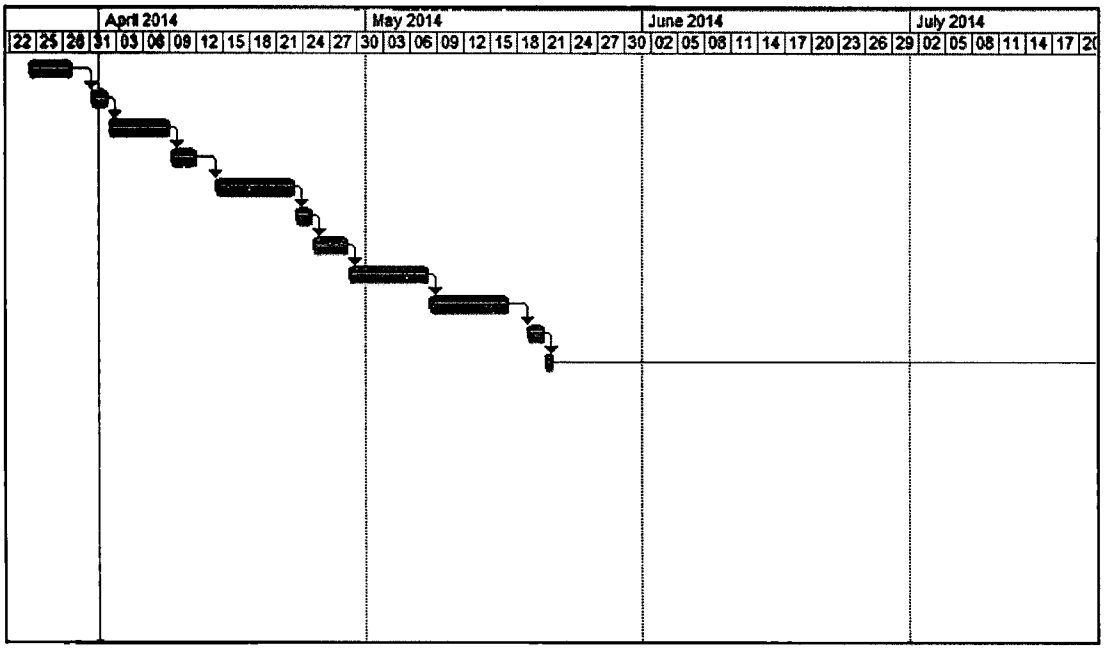
Appendix A-1.9: View Usage Report sequence diagram

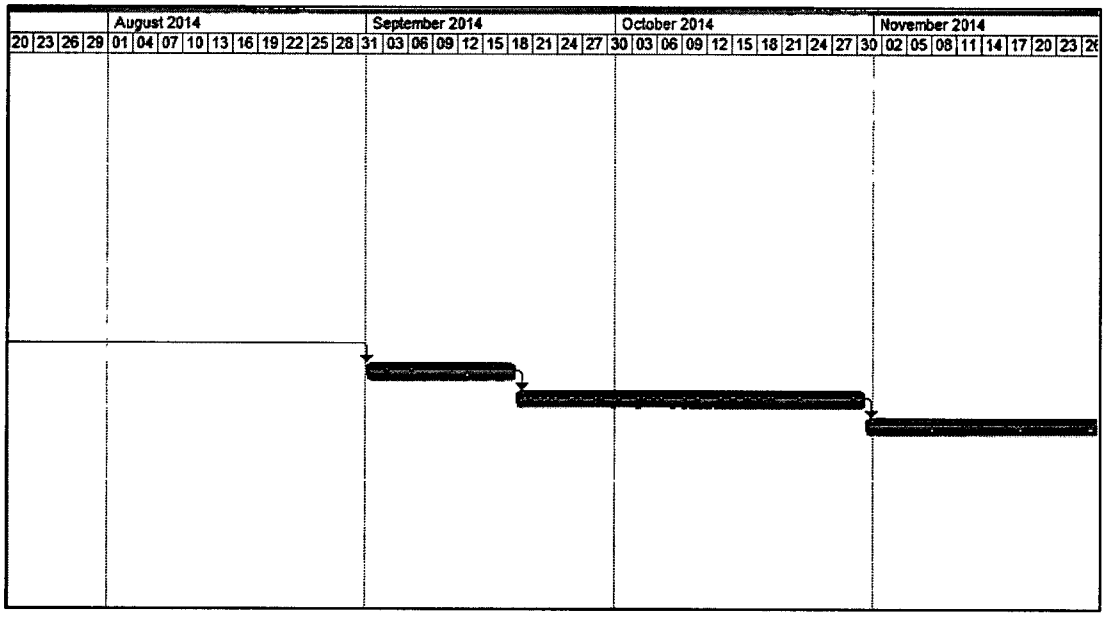


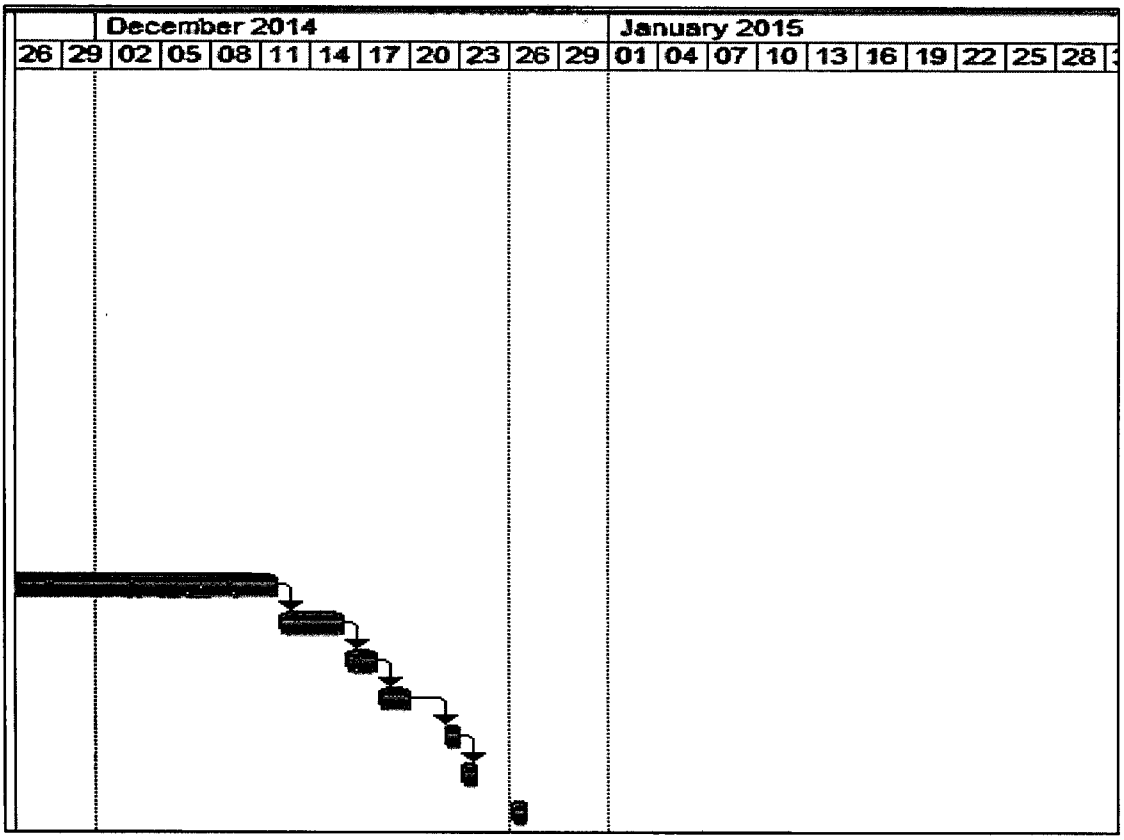
Appendix A-1.10: View Income Statistic sequence diagram

Appendix B
Gantt Chart

	Task Name	Duration	Start	Finish	Predecessor
1	**Requirement Gathering Phase**	5 days	Mon 24/03/14	Fri 28/03/14	
2	Meeting with client	2 days	Mon 31/03/14	Tue 01/04/14	1
3	Collect information	5 days	Wed 02/04/14	Tue 08/04/14	2
4	Requirement Analysis	3 days	Wed 09/04/14	Fri 11/04/14	3
5	Documentation	7 days	Mon 14/04/14	Tue 22/04/14	4
6	SRS	2 days	Wed 23/04/14	Thu 24/04/14	5
7	**Quick Design**	2 days	Fri 25/04/14	Mon 28/04/14	6
8	Preliminary Design	7 days	Tue 29/04/14	Wed 07/05/14	7
9	Interface Design	7 days	Thu 08/05/14	Fri 16/05/14	8
10	SDD	2 days	Mon 19/05/14	Tue 20/05/14	9
11	Presentation PSM1	1 day	Wed 21/05/14	Wed 21/05/14	10
12	**Build Prototype**	14 days	Mon 01/09/14	Thu 18/09/14	11
13	Construct and Develop prototype	30 days	Fri 19/09/14	Thu 30/10/14	12
14	Coding	30 days	Fri 31/10/14	Thu 11/12/14	13
15	Evaluate and refine	2 days	Fri 12/12/14	Mon 15/12/14	14
16	**Client Evaluation**	2 days	Tue 16/12/14	Wed 17/12/14	15
17	Change requirement based on client	2 days	Thu 18/12/14	Fri 19/12/14	16
18	STR	1 day	Mon 22/12/14	Mon 22/12/14	17
19	Presentation PSM 2	1 day	Tue 23/12/14	Tue 23/12/14	18
20	Submit Complete Report	1 day	Fri 26/12/14	Fri 26/12/14	




August 2014
September 2014
October 2014
November 2014
20 23 26 29 01 04 07 10 13 16 19 22 25 28 31 03 06 09 12 15 18 21 24 27 30 03 06 09 12 15 18 21 24 27 30 02 05 08 11 14 17 20 23


December 2014
January 2015
26 29 02 05 08 11 14 17 20 23 26 29 01 04 07 10 13 16 19 22 25 28

Appendix C
System Testing

System testing

Module	Item to be tested	Expected Result	Actual Result
Client Main interface	Button login and register	User should be able to click login button and register button	User can see click login button and register button
Client Login Interface	User entered valid password	User will be directed to start page	User directed into the start page
	User entered invalid username and password	System will be prompt wrong user or password message	System prompted wrong user or password message
Client Register interface	User entered username that has exist	The system will prompt the username has exist	The system will prompted the username has exist
	User entered valid information	The system will prompt new user added	The system prompted new user added
Client Start page	User information	User information should be view on the start page	User information viewed on the start page.
Client Time Display	Time countdown	The time should be countdown	The time countdown
Management Login	Staff or manager entered invalid username or password	System will be prompt wrong user or password message	System prompted wrong user or password message
	Staff or manager entered valid username and password	Staff or manager will be directed to staff or manager interface	Staff or manager directed to staff or manager interface
Management Manager	Manager add new staff	Staff information will be add into database	Staff information added into database.