Wolkite University
We Strive for Wisdom!

Project Title: -Web Based Inventory Management System for Wolkite University

College: - Computing and Informatics

Department: - Computer Science

Advisor Name: -Andeamelak .K

Group Members Name

Full Name	Id Number
1. Tinsae Yacob …….	CIR/282/08
2. Atinkut Bazie …….	CIR/053/08
3. Megersa Abera ……	CIR/192/08
4. Cheru H/gebreal……	CIR/083/08
5. Biniam Getachew ……	CIR/072/08

Wolkite University, Wolkite, Ethiopia

Jun/18/2019

WOLKITE UNIVERSITY
COLLEGE OF COMPUTING AND INFORMATICS
DEPARTMENT OF COMPUTER SCIENCE

Project Title: -Web Based Inventory Management System for Wolkite University

---

SUBMITED TO DEPARTMENT OF COMPUTER SCIENCE
IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR
THE DEGREE OF BACHLER OF SCIENCE IN COMPUTER SCIENCE

BY

NAME OF THE STUDENTS	IDNO
Full Name	**Id Number**
1. Tinsae Yacob …….	CIR/282/08
2. Atinkut Bazie …….	CIR/053/08
3. Megersa Abera ……	CIR/192/08
4. Cheru H/gebreal……	CIR/083/08
5. Biniam Getachew ……	CIR/072/08

PROJECT ADVISOR: ANDEAMELAK .K
Wolkite University, Wolkite, Ethiopia

12/10/2011EC

Declarations

This is to declare that this project work which is done under the supervision of Mr Andeamelak .K and having the title Inventory Management System is the sole contribution of:

Full Name	Id Number
1. Tinsae Yacob	CIR/282/08
2. Atinkut Bazie	CIR/053/08
3. Megersa Abera	CIR/192/08
4. Cheru H/gebreal	CIR/083/08
5. Biniam Getachew	CIR/072/08

No part of the project work has been reproduced illegally (copy and paste) which can be considered as Plagiarism. All referenced parts have been used to argue the idea and have been cited properly. We will be responsible and liable for any consequence if violation of this declaration is proven.

Date: _____

Group Members:

Full Name	Signature
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Approval Form

This is to confirm that the project report Inventory Management System in the case of Wolkite university submitted to Wolkite University, College of Computing and Informatics department of Computer Science in partial fulfilment of the requirement for the award of the degree of Bachelor of Science in Information Technology is an original work carried out by Tinsae, Atinkut, Megersa, Cheru, Biniam. The matter embodied in this project is reliable and is genuine work done by the student and has not been submitted whether to this University or to any other University /Institute for the fulfilment of the requirement of any study.

- **Student Team Approval Form**

Student Name	Student Signature
1. Tinsae Yacob	_____
2. Atinkut Bazie	_____
3. Megersa Abera	_____
4. Cheru H/gebreal	_____
5. Biniam Getachew	_____

- **Advisor and department head Approval Form**

Advisor Name	Advisor Signature
1. Mr Andeamelak .K	_____

Department Head Name	Head Signature
1. Mr Seifu Berihan	_____

Examiner Name	Examiner Signature
1._____	_____
2._____	_____
3._____	_____

Acknowledgment

First of all, we would like to thanks our God who helps us in every steps of the work and should give strength to do this project. Following, our thanks like to go advisor Mr. Andeamelak .K for whose great support by giving advice how can we do this final project and how the system will be automated. Next we express our thanks for Wolkite university inventory office for full support during the phase of requirement gathering. They support by giving potential information that help us to automate the system. Next we would like to pass our special thanks to our best friends who contributed us by giving suggestion, comment and different helps by seeing our work according to functionality in real world. Finally, we would also like to thanks our team members for our contribution and shared ideas for the successful completion of the project.

Contents

List of Table

List of figure

Abstract

This project is held for Wolkite University Inventory Management System to automate their function. It is web based system. The project team suggested to develop this system. The new system focuses on managing the fixed asset items and non-fixed asset items. It will handle receiving and ware housing process of items. To develop this project the project team will use the appropriate methodologies like data gathering, development methodologies and development approach and development tools. The user interface will be developed by using Adobe Dreamweaver and XML. To manage the database the project team will use Xamp-Server.

In general after implementation of the new web based inventory management system, the new system able to academic and administrative staff of Wolkite University to get accurate and fast service on inventory management office.

List of Abbreviations

BR----------Business Rule

GUI----------graphical user interfaces

ICT----------information communication technology

IMS----------inventory management system

MYSQLI---------- My System Query Language

OOA---------- Object Oriented Analysis

OOSD---------- Object oriented system development methodology

PHP ---------- Personal Home Page

UML----------unified modelling languages

URL---------- Uniform Resource Locator

WKU----------Wolkite University

XAMPP---------- Cross-Platform Apache MySQL PHP Perl

CHAPTER ONE

PROPOSAL

1.1. Introduction

ICT refers to technologies that provide access to information through telecommunications. It is similar to Information Technology, Information and communications technology (ICT) refers to all the technology used to handle telecommunications, broadcast media, intelligent building management systems, audio visual processing and transmission systems, and network-based control and monitoring functions. Although ICT is often considered an extended synonym for information technology, its scope is broader. ICT has more recently been used to describe the convergence of several technologies and the use of common transmission lines carrying very diverse data and communication types and formats. Modern information and communication technologies have created a "global village," in which people can communicate with others across the world as if they were living next door. For this reason, ICT is often studied in the context of how modern communication technologies affect society. As there are many problems face human being throughout their life it is obvious to solve many of the problems using computers. When saying this as the computer is the modern technology problem solver any one can solve his/her problem by developing the software that make its work computerized. Inventory management system deals primarily with determining the amount and placement of the materials within a facility or within multiple locations of a store. One way of managing this system is to have a web-based system in place that can instantly track and update the information about the tools or equipment. The importance of implementing a web based inventory system is becoming vital as most of the time the information are accessible directly. This project can help the University to develop the skills to handle with their operational environments. The implementation of this web-based inventory system can help the University to develop the skills to handle with their operational environments. Because lack of system tool to be used to monitor the availability and quantity of materials in this University. The Inventory Management System is a real-time inventory database capable of connecting multiple stores. Wolkite University Inventory management system is currently use manual system. This is difficult, boring and needs labour force to perform any action. That means data is

stored in paper and current system item request method is any user physically communicate with staff office employer and manager. And search and update item information is very difficult. Our system is easily solve this problem that means data stored in database and item request is online. And view and search item information is simple from data base.

1.2. Background of the Organization

Wolkite University is one of the third generation higher institutions that have been founded in 2004 EC. It is established for the purpose of providing and promoting higher education learning, research, and out research programs in the country to ensure the realization of the national vision of reaching the middle income countries by 2012, the university is located in the southern nation nationalities regional states, in guraghe zone, 158 km southwest of the capital city, Addis Ababa .it is situated at gubrye sub city, 14 km from Wolkite town, during this time it included six faculties. These are natural science, social science, Business and Economics Faculty, computing and informatics, engineering and technology and agricultural science. At present the University runs undergraduate programs. It is expected that with the on-going expansion a number of faculties and programs will be opened and the enrolment capacity will increase. The Wolkite University store office was established during this time and it is developed from time to time with the development of the University. As it is developed from time to time it increases its capacity by increasing the number of workers in the office. The Wolkite University store office is the back bone of the University by managing any activities related to materials available on the University. Now a day's, Wolkite University store office gives many services, among these services the following are the main services:

- Registering new materials
- Generate report periodically
- Offering materials to the users

1.3. Statement of the problem

In the current system Wolkite University Inventory System is using manual system on the inventory of all the properties of University.

So we have identified the following problem in the existing system.

- All files (data) are register in manual way and that files are not well organized. This will result in poor techniques handling in arrangement related data.

- Since all records kept physically on shelves and file cabinets the stock record keeping system is poor and subjects to number of problem such as files can be destroyed or stolen.
- It is difficult to identify the materials where they are stored because of the presence of different stores.
- Difficult to manage and control daily activities.
- It is not easy to handle reservation, because the stock clerk is forced to check manually the entire list of materials which are stored in the stock. In addition, the current system does not allow speed processing of users request adjustment and cancellation of what has been reserved.
- To generate a report from manual system requires much effort and it is time consuming.

1.4. Objective of the project

1.4.1. General Objective

- To develop web based system for inventory management system in Wolkite University.

1.4.2. Specific objective

To achieve the above general objective, we will use the following specific objective:

- To create a dynamic website for the inventory
- To design interactive user interface for the inventory management system
- Creates a database to register items, users and other activities.
- To provide the users(staff member) to view detail inventory information
- To provide the inventory record users and items information
- To record inventory information
- To control the database from unauthorized user
- To get comment easily from users
- To generate report to manager
- To search and access information from database in a short period of time.
- To control loss of data.
- To minimize the amount of paper work by automating the existing system.
- To allow the system user to view and update records of inventory data.

1.5. Scope and limitation of the project

1.5.1. Scope of the project

The project that we are trying to focus on inventory management system will cover only on the Wolkite University and will perform the following activities:

- ❖ To add users and items.
- ❖ To search items.
- ❖ To update users and items.
- ❖ To request an item online.
- ❖ To generate report.
- ❖ To create account for system users.
- ❖ To view answer of the request.
- ❖ To approve and disapprove request.
- ❖ To register each active of the system users for security purpose.

Generally, this system automates the functions of inventory management system.

1.5.2. Limitation of the project

Limitation is element of factor or subsystem it restricts the system decision making from achieving potential goal of the system. There are many constraints within our proposed system that limit their effectiveness of performance. Our system is limited only in the process of inventory management system of the Wolkite University.

The system may not automate fully because does not include the following:

- ✓ Our system does not include online payment.

The above activities or subsystems are proposed system limitations because of the following reasons:

- ✓ Time:-Is the main factor of limitation our proposed systems that limit its performance because while we are developing the system it takes more time and we may not get enough time to automate the system.

1.6. Significance and Target Beneficiaries of the system

1.6.1. Significance of the system

As per the scope of the project the outcome will include the following….

- ➢ Provide better and well managed resource sharing system: which means resources can be shared in more efficient ways between the users.

- Introduce better ways of giving and viewing information methods for the users: users of the system (colleges, inventor office employers, admin and managers) can provide information and also can have easy access to information provided.
- Advanced way of creating, deleting and updating the accounts of users.
- Making easy ways of storing deleting, searching and updating items: clerk are able to store delete, search and update items.
- Enhancing best methods of report generation: the users of the system will have a better ways of report generation.
- Better ways of giving and receiving feedbacks: the users of the system can make a feedback to one another.

1.6.2. Target Beneficiaries of the system

Here we describe the target beneficiaries of the system.

- The system developing team members

  Having knowledge how real life problem should be solved.

  Going back and forth through each and every system development system phase and acquire skill and experience in the developing software.
- Manager
  - Reduce time that consumed when they try to communicate with clerk.
  - Increasing job satisfaction and eliminating tedious tasks.
  - Manager easily approve and disapprove request of staff office employers.
- Administrator
  - Administrator can be easily control users activity and recycle bin.
  - They can also easily create account for the system users.
- Clerk
  - Simply manage item in the system.
  - Easily Control transfer items and returned items
- Staff Member (Users)
  - Users simple request items inventory office and view the response.

1.7. Methodology for the project

1.7.1. Data gathering methodology

The Methods and techniques we use to analyse the existing system and designing web based system includes, interview, document analysis and practical observation. Those

methods which help us to gather the required data to analyse our project and those methods selected due to the time and the organization's willingness.

I. Primary Techniques

i. Interview

To get information, discussions with the store head will be conducted with concerned staff of the corporation to get general information. We asked different questions for inventory office employer and users to get information ours system. We asked the head of the store about that store information when we wanted to develop this system. Some of questions are:

ii. Practical Observation

It helps us to get real information how the organization performs its function and this helps to strength the data that gathered through interview and document analysis. We goes to inventory office physically and looking how to work current system and get information our proposal.

II. Secondary Techniques

i. Document Analysis

This technique provides information on how the existing system works .There for documents related to the existing system of the organization will be assessed. We fetch different document and gather information from existing system how to perform there functions using document.

1.7.2. Data analysis methodology

In this project, our team will use object oriented system development methodology (OOSD) for the design.

This technique has several phases some of them are:

I. Object Oriented Analysis (OOA)

During this phase the team uses to model the function of the system (use case modelling), find and identify the business objects, organize the objects and identify the relationship between them and finally model the behaviour of the objects in detail.

II. Object Oriented Design (OOD)

During this phase our team uses E draw software to refine the use case model and rational rose for designing the sequence, collaboration, activity diagrams and to model object interactions and behaviour that support the use case scenario.

1.7.3. Implementation Methodology

I. Back End Design Tool

We use XAMPP for back end management for implementation that mean use MYSQL for manage and store system data in the data base and Apache for run and execute php code for this purpose we use XAMPP software for Back end design tool.

II. Front End Design Tool

The user interface will be developed using php integrated development environment since it easily designing the front end and connected in to data base easily.

1.8. Feasibility Analysis

1.8.1. Economic feasibility

The proposed web based inventory system is economically feasible because:

- The system requires very less human power.
- The system will provide fast and efficient automated environment.
- The system will have GUI interface and very less user-training is required to learn it.
- This project is economically feasible because its anticipated benefit is greater than the expected cost.
- The system reduces many material cost.

1.8.2. Technical feasibility

We have technical knowledge about:

- PHP to write the code or implementation with XAMPP.
- MySQL to build the database to store the data.
- Requirement analysis to know the stockholders constraint for their satisfaction
- Unified Modeling Language (UML) model to do analyzing and designing in good manner.

The technical requirement for the inventory management system in order to do their operation by the new computerized system is:

- Training on the new system to know how it operates and how to use the computerized system.

1.8.3. Operational feasibility

It determines how the proposed system will satisfy the organizations need and it also offers Secure, accurate and efficient system to the organization.

The system in which we are developing is also compatible to all web browsers.

CHAPTER TWO

EXISTING SYSTEM

2.1. Introduction

Understand the existing system is important to maintain the system and develop new system. Even if it is a manual system. Current Wolkite University inventory management system is use manual system for all activates. It is performing the following activities. Registering new items of the stock, supply items from the stock, maintain and update records, generate report, request items and others. The above all activities performed by manual this leads to security issues because of the manual system recording and posting of materials is time consuming for search, register and perform any action, leads duplication for registration time and boring for search any item information. This is the result of lack web based system.

2.2. Users of the Existing System

The users of the existing system include the following:

- ✓ Stock manager: -stock manager works in the existing system to receive the user request and approve or disapprove the user request.
- ✓ Department manager: -Department manager works in the existing system to receive the user request and approve or disapprove the user request and request items and receive response from inventory office.
- ✓ Stock keeper: -stock keeper actions in the existing system get the item from stock clerk and he/she record, check and place. Additional the stock keeper get permission and give items for the staff members.
- ✓ Stock clerk: - stock clerk performs the following task in the existing system he/she record the item and assign the code for the items.
- ✓ Customer/users: -customers (staff members) participation on the existing system he/she request the item and receive response from the manager.

2.3. Major functions of the Current System

The major function of the current system will be:

- ✓ Registering new users and items: -in the existing system stock clerk register items and create user profile then register users.

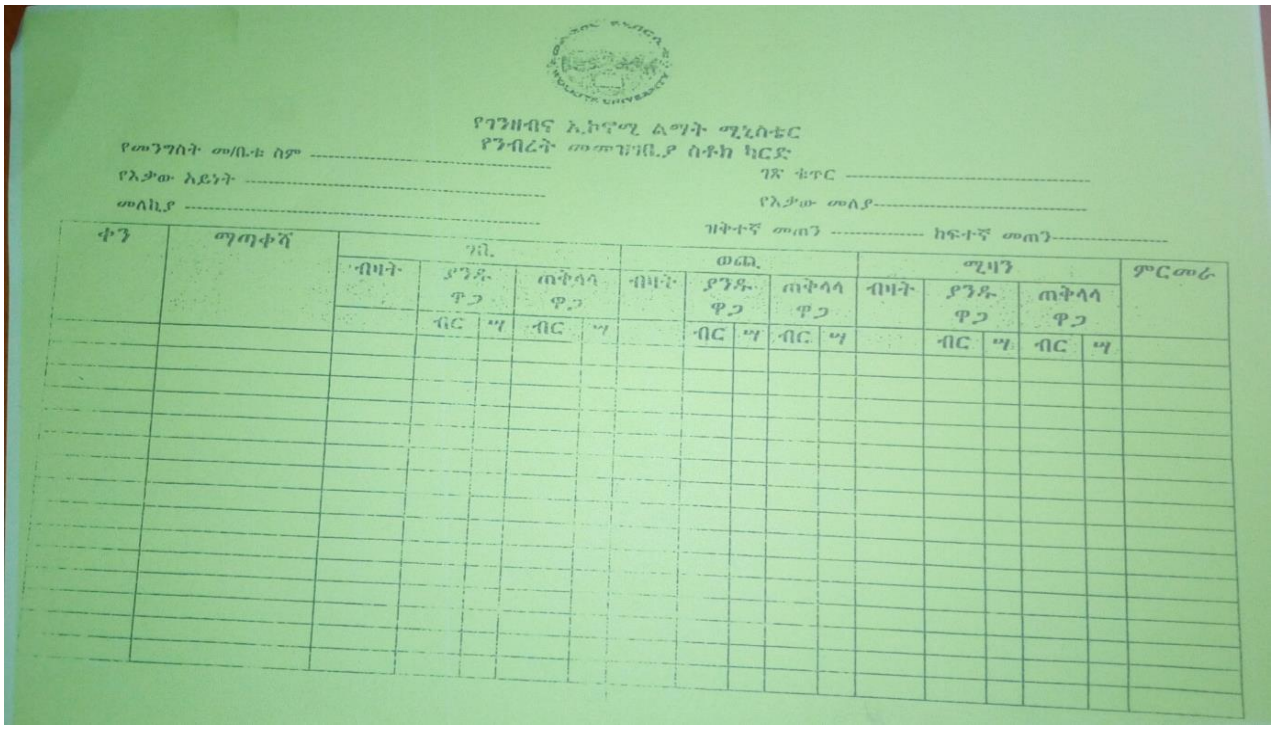


Figure 2.1 Item registration form

- ➢ User profile registration form

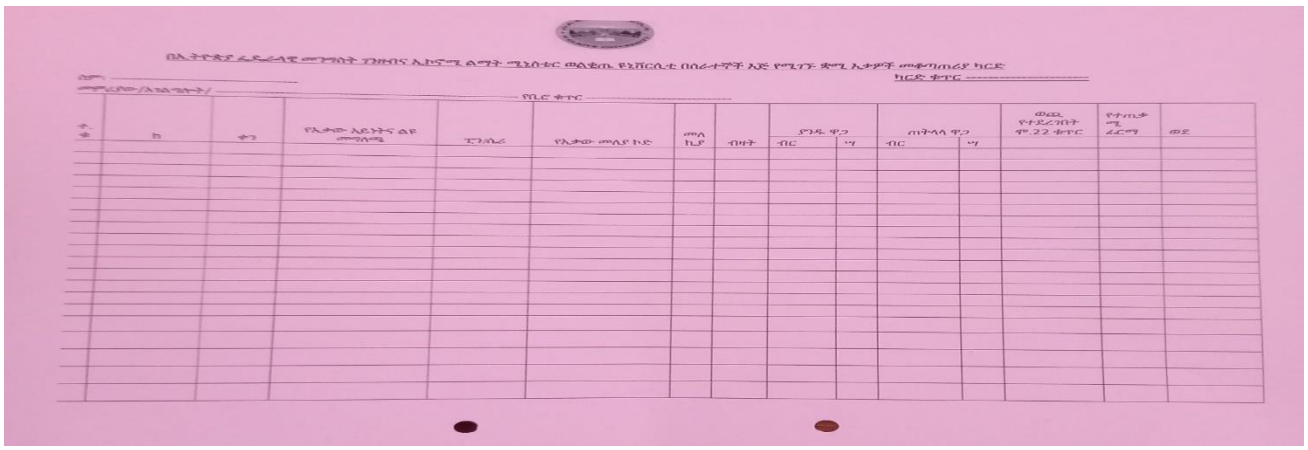


Figure 2.2 profile registration form

- ✓ Searching items and users: - clerk search items from registered file and search users file from registered user profile.
  - ➢ Search items and users form

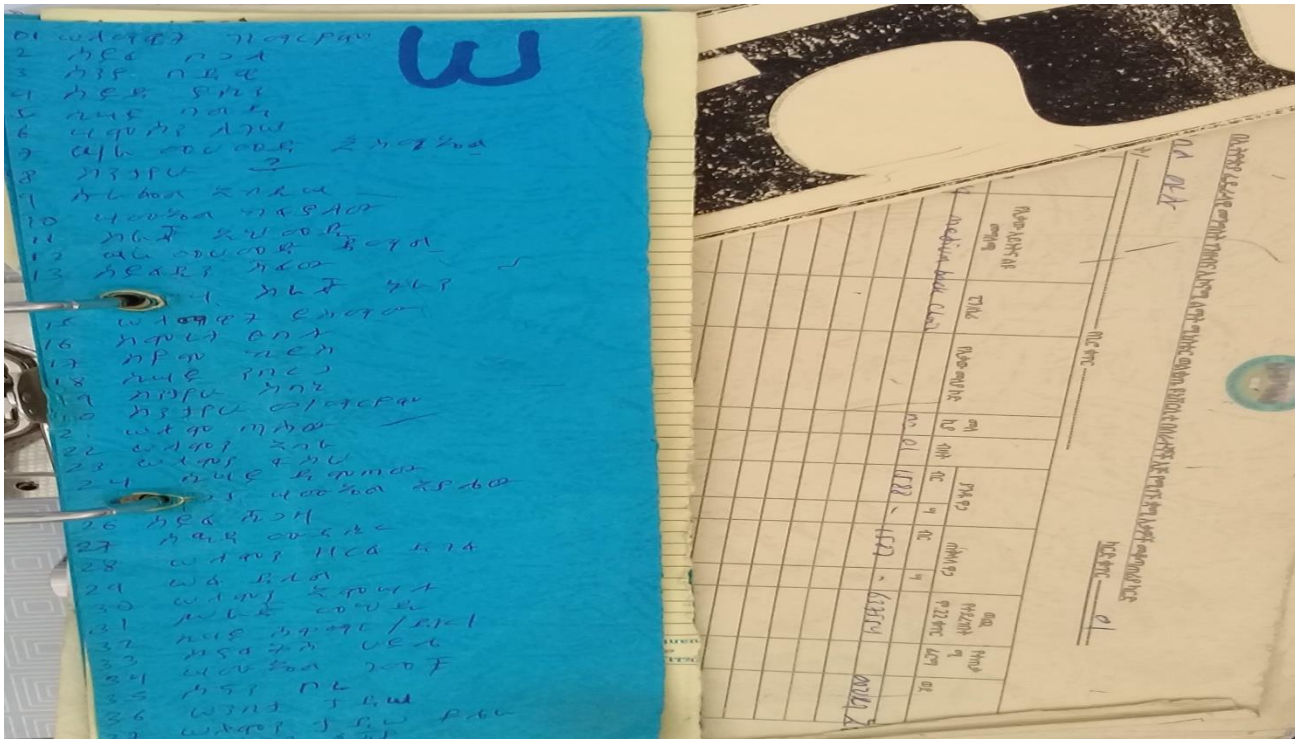


Figure 2.3 Search users information form

- ✓ Updating users and items: - clerk update item and user profile existed file in the store.
  - ➢ Update items form

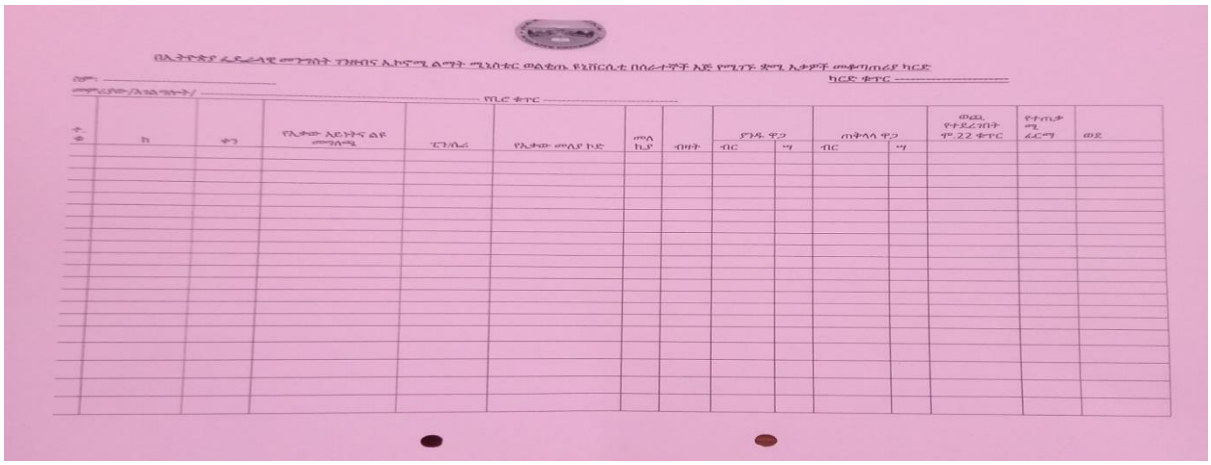


Figure 2.4 Update user profile form

- ✓ Transferring an items: - Users transfer items from one staff member to another that means one staff member exit from university he/she must transfer or return items.
  - ➢ Transferring items form

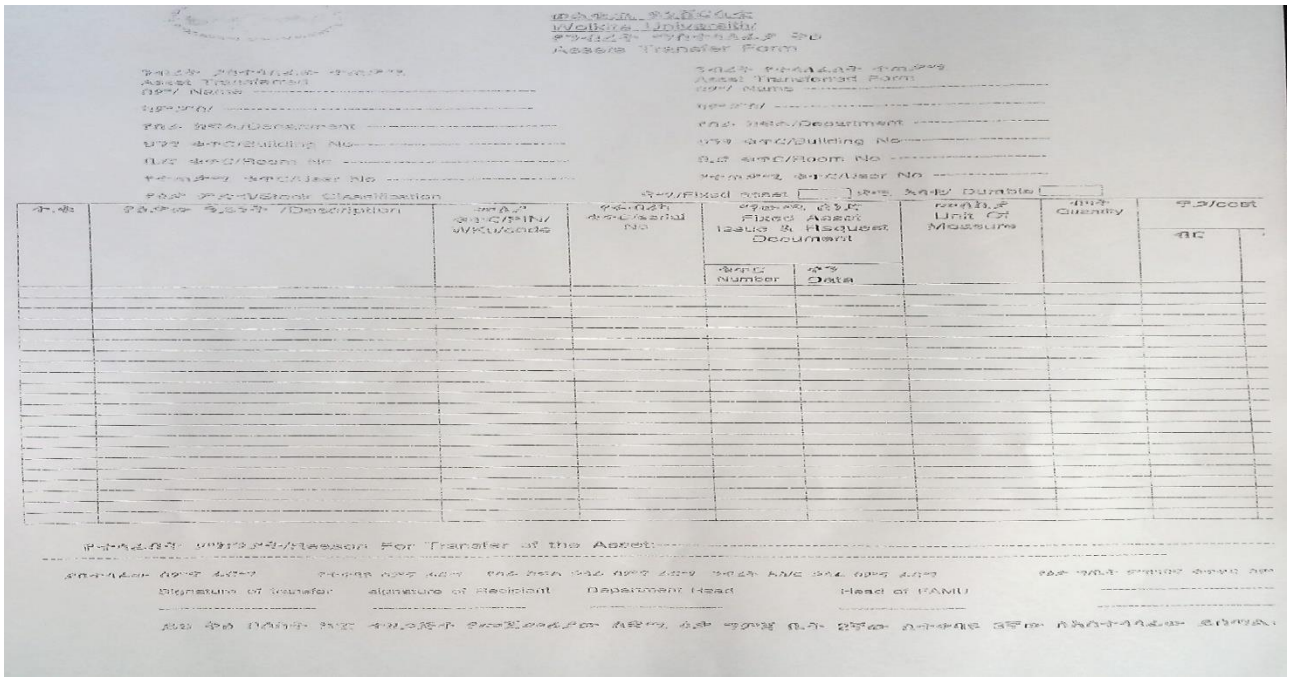


Figure 2.5 Transfer items form

- ✓ Requesting an items: - any staff members request items from store and get response from store manager and department manager.
  - ➢ Request items form

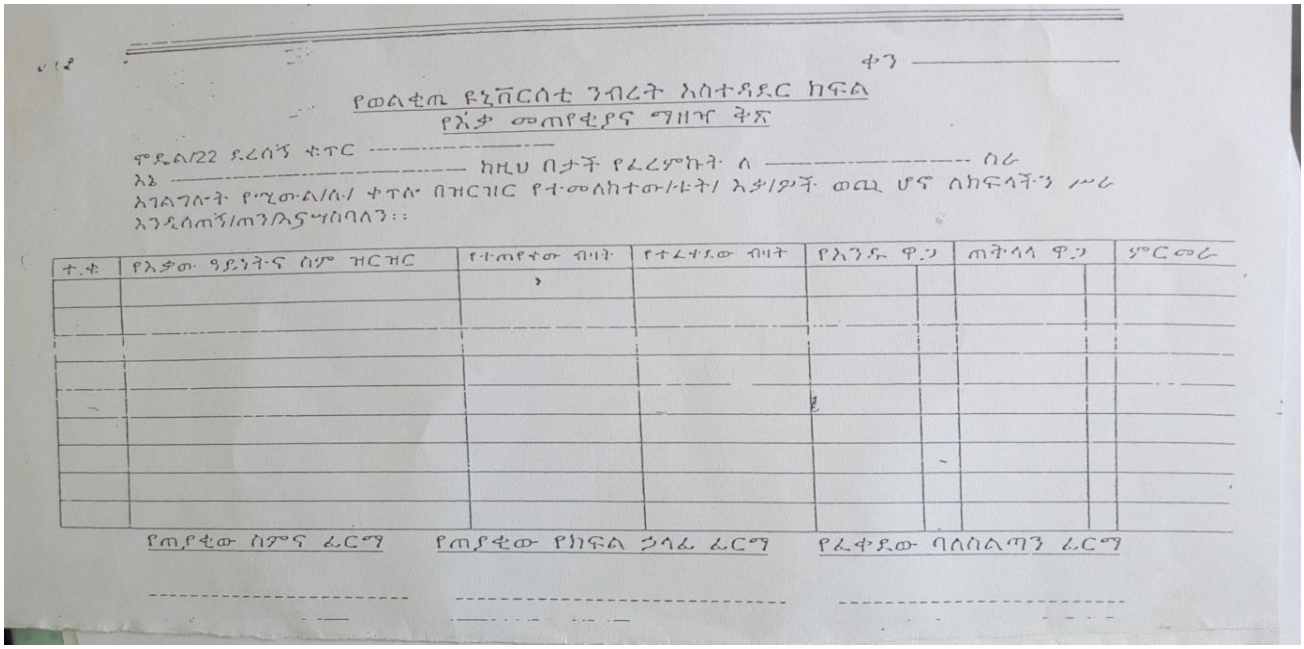
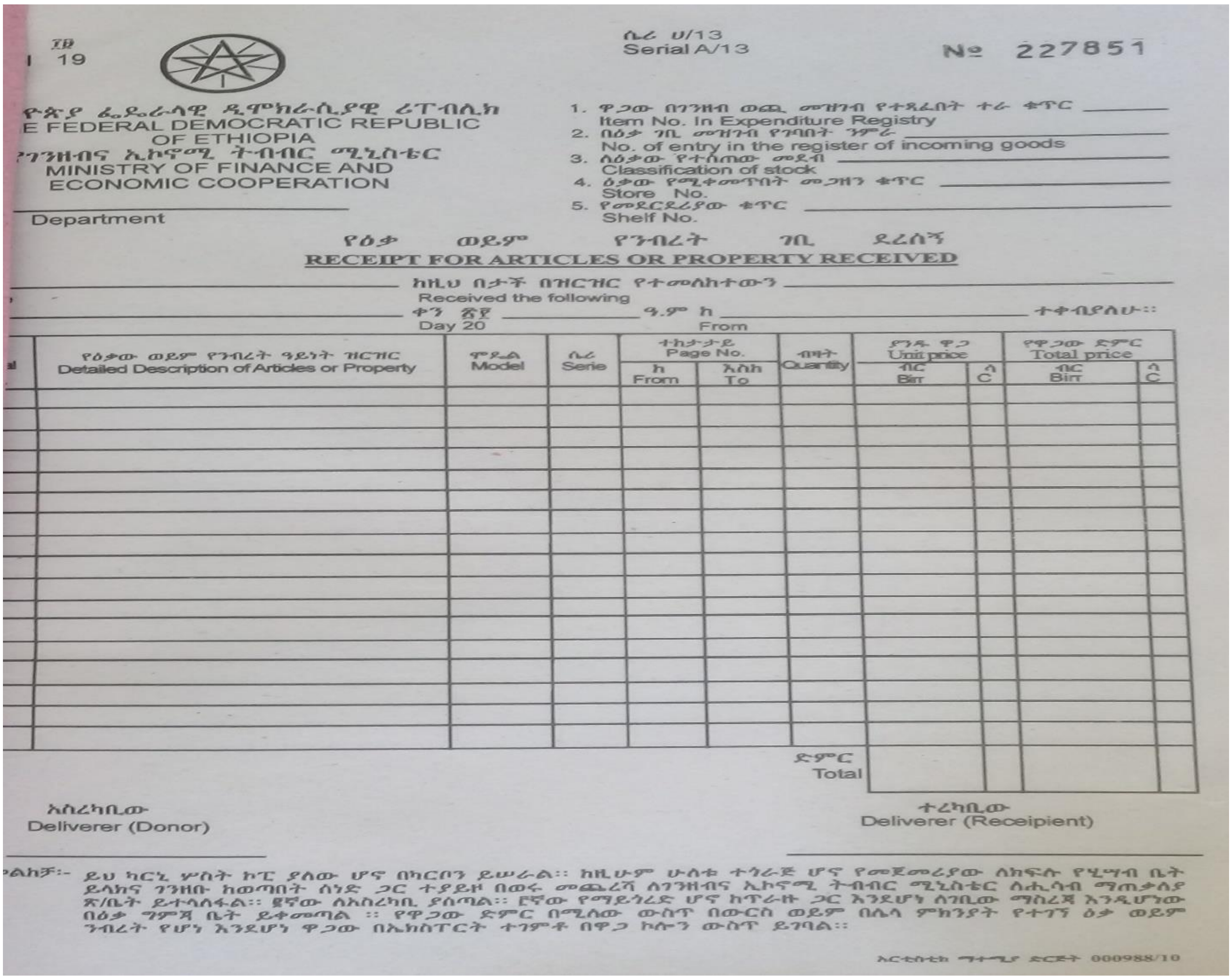


Figure 2.6 Request items Form

- ✓ Return an items: -users (staff member) exit from the university by any case he/she must return items for the store and receive clearance from store


19

Serial A/13

№ 227851

E FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
MINISTRY OF FINANCE AND ECONOMIC COOPERATION

Department

1. Item No. In Expenditure Registry
2. No. of entry in the register of incoming goods
3. Classification of stock
4. Store No.
5. Shelf No.

RECEIPT FOR ARTICLES OR PROPERTY RECEIVED

Received the following
Day 20 From

	Detailed Description of Articles or Property	Model	Serie	Page No.		Quantity	Unit price		Total price	
				From	To		Birr	C	Birr	C
						Total				

Deliverer (Donor)

Deliverer (Receipient)

000988/10

Figure 2.7 Item Returned Form

- ✓ Generate report: - the stock clerk generate report for the store manager.
- ✓ Approve or disapprove request: - stock manager and department manager approve or disapprove the staff member request.

2.4. Drawbacks of the Existing System

The major Drawbacks of the existing system is that it use the manual system. In this case the following problems occur in the existing system: -

- ✓ Data management: -that means record, delete, update and search items and users data is very difficult in the existing system.
- ✓ Security issue: - in the existing system all data process perform in the paper this paper put on the cabinets and shelf this leads less security issue.

- ✓ Time Consuming: - Due to the manual data processing all activity are performed in the paper this is time consuming that means like search data, generate report, view data, update data and delete data is very time consuming.
- ✓ Boring: -As long as the manual system invokes much documentation in which the system users need to copy the necessary information from paper to paper, which is even more boring for the system users.
- ✓ Inaccurate: -Manual data transfer has no guarantee that the person in charge may make mistakes that can even cause a major crisis for the users or university.

2.5. Business Rules of the Existing System

A business rule is successfully an operating standard or polices that we have try to specify for both the existing system and the proposed system of the store management must satisfy.

We mainly focus on the existing system business rules.

The existing system has many business rules or principles some of them are:

Br1: new items are recorded and assigned a code by the stock clerks.

Br2: after recording and assigning code by the store clerk the items led to the store keeper then he/she record, check and place them.

Br3: only staff members of the university are allowed to request items material.

Br4: when the users/staffs want to borrow any material he/she must register his id, full name, email, status and other user details properly.

Br5: in order to get the item he /she must get permission from the stock manager and the store officer have to put their signature.

Br6: the staff member has to put his/her signature while taking the item.

Br7: staff member transfer item from one person to another he/she must announce for the stock office members.

Br8: the items are not residence in the item taker person.

Br9: if the item does not reside in the taker stock office members fill the transfer forms and set signature stock manager, transferors and items taker in the form.

Br10: the staff member should not damage the item.

Br11: if the staff member has loss or damage the item he/she has to replace that item or pay the cost with additional percent.

CHAPTER THREE

PROPOSED SYSTEM

3.1. Functional Requirement

There are several functions that are included in the system to satisfy the needs of the university. Some of these are as follows:

The proposed system is intended for inventory purposes. Thus, it can perform different processes included in the inventory. It will be able to monitor the delivery of a certain items; the newly ordered items will be added to the current stocks and for the outgoing stocks that can be subtracted from the current stock. Therefore, the University will able to track the item/supply that are running out of stock and thus prepare order.

Functional requirements of the system are:

- ✓ **Manage Items**: stock clerk manage items that means the new item add by clerk and existing items update and delete by clerk.
- ✓ **View and Search:** all proposed system users are view and search items.
- ✓ **Request items:** users (staff employer) request item online.
- ✓ **Approve and disapprove request:** manager approve and disapprove items requested by users (staff member).
- ✓ **View Report and Comment:** manager views a report generated by office employer and view comment sent by system users.
- ✓ **Manage Account:** administrator manages account that means create account, activate and inactivate the account.
- ✓ **Receive Response:** users receive a response which is approved or disapproved items.
- ✓ **Give Comment:** comment gives by any system users.
- ✓ **Control Recycle Bin:** administrator control recycle bin that means restore data from recycle bin and delete permanently from recycle bin.
- ✓ **Generate Report:** stock clerk and stock keeper generate report.
- ✓ **Change Password:** stock clerk, users, manager and administrator change password.
- ✓ **Manage User Activity:** system register all user activity and administrator view, delete and search user activity.

- ✓ **Manage Personal Information:** administrator manage personal information that means register new employer and create account for new employ and delete, update and view existing employer information.
- ✓ **Transfer items:** any staff member (users) transfer an item to the other users by using proposed system.

✓ **Return items:** staff member return item lives from the university and the item fail in the same case. Generally the item return from the user to store.

3.2. Non-Functional Requirement

The non-functional requirement deals with the user-visible aspect of the system that is not directly related with the functional requirement. It also deals with the quality of the application system needed from different evaluation point of view and quantitative constraints like the response time of the application to give user queries, the user friendly of the application, accuracy and other.

Inventory management system include the following non-functional requirement:

- ✓ **User interface:** the user interface attractive, easy to use and user friendly for the users.
- ✓ **Performance and Access time**: The system is capable of carrying huge amount of data with one database and will provide fast access to the customer according to their privilege.
- ✓ **Security**: the system should enable to task a backup at any time and able to restore from backups. The users are allowed to do task only after the login process Based on their privileges.
- ✓ **System Modification & Maintainability:** the system that we develop will be easily maintainable and modifiable for new features.
- ✓ **Backup and Recovery:** the process of backing up refer to making copies of data so that these additional copies may be used to restore the original after a data loss event. These additional copies are typically called "backups." Backups are useful primarily for two purposes. The first is to restore a state following a disaster (called disaster recovery). The second is to restore small numbers of files after they have been accidentally deleted or corrupted. Data loss is also very common.
- ✓ **Error handling:** the System shall output a correct message correspond to the action taken. If the taken action is not correct the system should respond the action is incorrect message.
- ✓ **Quality Issues**

The proposed system is expected to have:

- **Reliability**: the system should be reliable in retrieving and displaying only the requested data for the user. Users can rely on the information be gotten would be true and dependable.
- **Robustness:** the inventory management system should be capable of trapping errors and promoting the user to take appropriate action.

- **Physical Environment**

The system must be deployed on the server that supports windows operating system only. Besides this the server must be put on a place that has high security and little access physically. The system will be developed on any computer runs on windows operating system.

- **Resource**: proposed inventory management system needs the resource to deploy the system. Resource like internet connection, server database computer, server application computer and client computer.

CHAPTER FOUR

SYSTEM ANALYSIS

This chapter focuses on developing the system analysis models for the new system using the use case model, sequence diagram, activity diagram and class diagram.

4.1. System Model

This section focuses on modelling the proposed system. To produce a model of the system which is correct, complete and consistent we need to construct the analysis model which focuses on structuring and formalizing the requirements of the system.

4.1.1. Use Case Model

User of proposed system (Actors)

- Administrator
- Manager
- Stock Clerk
- Staff

User of proposed system and User Characteristics

User(Actors)	User characteristics
Administrator	Administrator of the system is responsible in controlling the overall system. The admin is also able to manage user activity, recycle bin and accounts.
Manager	The office managers are responsible to approve or disapprove requests from the user and also responsible to view items, comment and report. The department manager are responsible to approve and disapprove requests of users and responsible to request items, give comment to the inventory office.
Stock Clerk	The Stock Clerks are responsible to register or record new item and also manage all over activities related to materials in addition to generate reports periodically

Staff member	The staff members are receive response which is approved or dis approved view item, send request for an item and also give comment

4.1.1.1. *Use Case Diagram*

Use case diagrams are used for capturing functional requirements of the system. It is the functionality of the system or the service provided by the system.

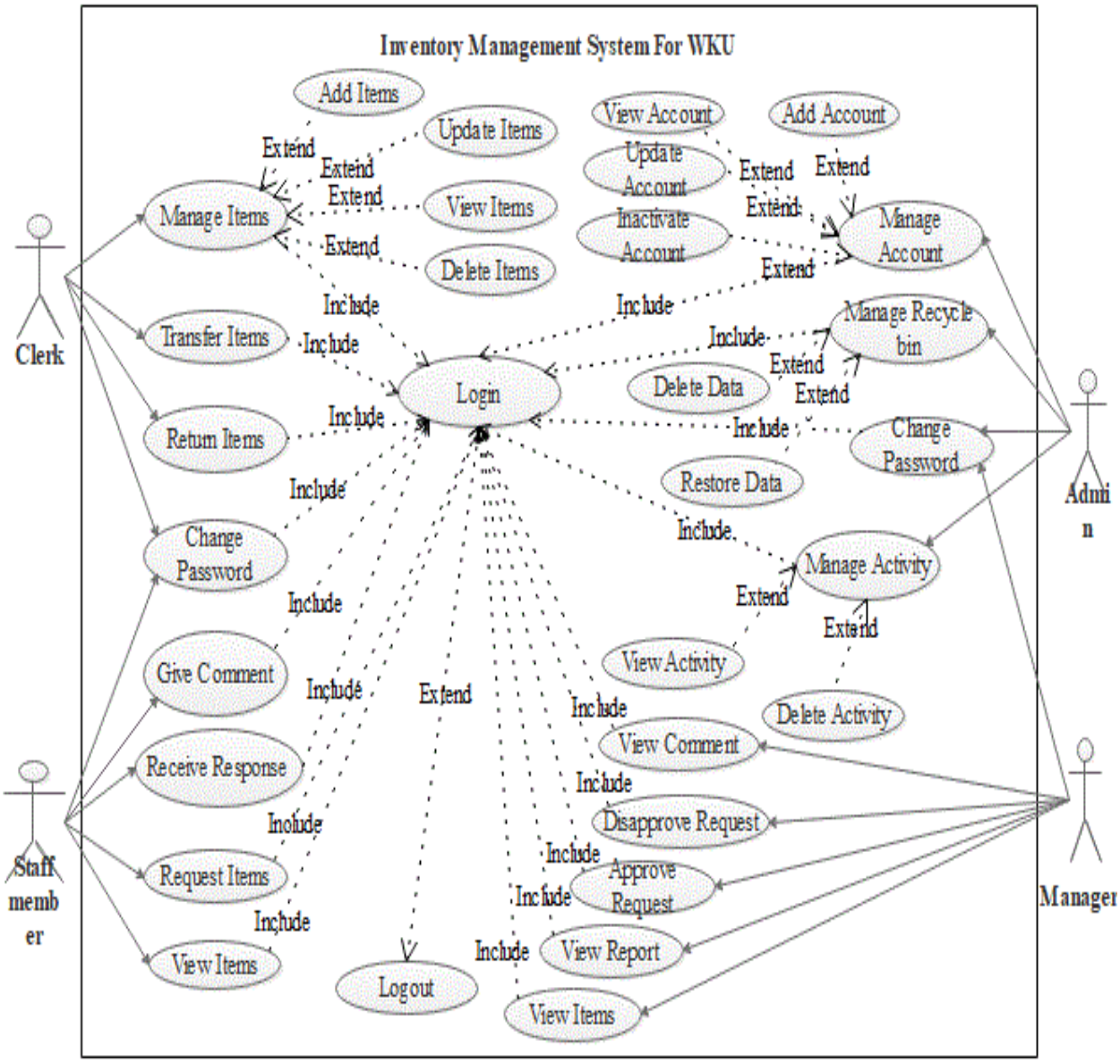


Figure 4. 8 Use Case Diagram

4.1.1.2. Use Case Description

Table 4. 1 Use case description for Login

Use case name	Login
Participating actor	The System Users (administrator, manager, stock clerk and staffs)
Description	This use case is used to ensure security in system usage
Precondition	The system user must have username and password
Main flow of Events	Step1: User has to open the system. Step2: The System responses by displaying the login interface and allow the user for the user name and password. Step3: User fills his or her username and password and select the role. Step4: he/she select login button. Step5: System verifies username and Password and display its main windows. Step6: Use case ends.
Post condition	The user get access to the system according to their predefined system privilege and finally he/she logout or turn off the page
Alternative step 5	If user enters wrong user name and / or password and select another role
	Step5.1: System displays error message. Step5.2: The system go to step2.

Table 4. 2 Use case description for Add New User Account

Use case name	Add new user account
Participating actor	Administrator
Description	This use case is done by the Administrator when he/she need to add new user account
Precondition	The Administrator add new users to the system
Main flow of events	Step1: the Administrator wants to add new user to the system he/she must login to the system. Step2: The system display the Administrator page. Step3: The Administrator click on manage account link.

	Step4: The system display manage account page. Step5: The Administrator click on Add user account button. Step6: The system display add new user form. Step7: The Administrator fill the new user information in the new user form. Step 8: the Administrator click on create account button. Step9: the system validates the new user detail. Step10: the system save the user detail to the database. Step11:the system ends
Post condition	The user information will be registered by administrator
Alternative step 9	If administrator fill invalid user details
	Step9.1: System displays error message. Step9.2: The system go to step6.

Table 4. 3 Use case description for Update Account

Use case name	**Update account**
Participating actor	Administrator
Description	This use case is done by the Administrator when he/she need to update user account.
Precondition	The Administrator wants to update the user account information
Main flow of events	Step1: the Administrator wants to update the user information he/she must login to the system. Step2: The system display the Administrator page. Step3: The Administrator click on manage account link. Step4: The system display manage account page. Step5: The Administrator click on update button. Step6: The system display the user information. Step7: The Administrator fill the user information in the update user form. Step 8: the Administrator click update button. Step9: the system validates the updated detail. Step10: the system save the updated detail to the database.

	Step11:the system ends
Post condition	The user account information will be updated by administrator
Alternative step 9	If administrator fill invalid user details
	Step9.1: System displays error message. Step9.2: The system go to step6.

Table 4. 4 Use case description for Inactivate Account

Use case name	Inactive User
Participating actor	Administrator
Description	This use case is done by the Administrator when he/she need to inactivate user
Precondition	The Administrator login to the system to inactivate users
Main flow of events	Step1: the Administrator wants to inactivate an account and he/she login to the system. Step2: the Administrator click on manage user link. Step3: The system displays manage account page. Step4: The administrator select inactivate button Step5: the system sends message "Do you want to inactive this user?" to the administrator Step6: the administrator selects the yes option. Step7: the system inactivated the account from the system. Step8:the system ends
Post condition	The user account will be inactivate by administrator
Alternative step6	If administrator select no option Step6.1: System does not inactive account. Step6.2: The system go to step3.

Table 4. 5 Use case description for Add Item

Use case name	Add Item
Participating actor	Stock Clerk
Description	This use case is done by the stock clerk when items are needed to be register.

Precondition	The stock clerk has to login to the system when he/she wants to register item to the system.
Main flow of events	Step1: the stock clerk wants to add new item to the system he/she must login to the system. Step2: The system open the stock clerk page. Step3: The stock clerk click manage items link. Step4: The system open the manage item page. Step5: The stock clerk click add item button. Step6: The system display add item form. Step7: the stock clerk fill necessary information to the item form Step8:the stock clerk selects Add Item button Step9: the system checks the item detail. Step10: the system saves the item input information to the database and display success message.
Post condition	The item information will be recorded to the database of the system.
Alternative step9	If the stock clerk insert incorrect item detail. Step9.1: System displays error message. Step9.2: The system go to step6.

Table 4. 6 Use case description for Update Item

Use case name	Updating Item
Participating actor	Stock Clerk
Description	This use case is done by the stock clerk when items are needed to be updated.
Precondition	The stock clerk has to login to the system when he/she wants to update item to the system.
Main flow of events	Step1: the stock clerk wants to update item to the system he/she must login to the system. Step2: The system open the stock clerk page. Step3: The stock clerk click manage items link. Step4: The system open the manage item page.

Table 4. 7 Use case description for Delete Item

	Step5: The stock clerk click Update button. Step6: The system display update item form. Step7: the stock clerk fill necessary information to the update item form Step8: the stock clerk click Update button Step9: the system checks the item detail. Step10: the system saves updated information to the database and display success message.
Post condition	The item information will be updated by stock clerk.
Alternative step9	If the stock clerk fill incorrect information about items Step9.1: System displays error message. Step9.2: The system go to step6.

Use case name	**Deleting Item**
Participating actor	Stock Clerk
Description	This use case is done by the stock clerk when items are needed to be deleted.
Precondition	The stock clerk has to login to the system when he/she wants to delete item from the system.
Main flow of events	Step1: the Stock clerk wants to delete item he/she login to the system. Step2: The system open Stock clerk page. Step2: The Stock clerk click on manage user link. Step3: The system displays manage account page. Step4: The Stock clerk click Delete button Step5: The system display message “Do you want to delete this item?” to the stock clerk. Step6: The stock clerk selects the yes option. Step7: The system delete the item from the system. Step8: The system ends.
Post condition	The item information will be deleted from the database of the system.
Alternative step6	If the stock clerk select no option. Step6.1: System displays does not delete the item information.

Step6.2: The system go to step3.

Table 4. 8 Use case description for view report

Use case name	View Report
Participating actor	Manager
Description	This use case is seen by manager when he/she want to view about the item report, employee report.
Precondition	The manager login to the system and the staffs and the items are already in database.
Main flow of events	Step1: the Manager wants to view report and he/she login to the system. Step2: The system open manager page. Step3: The manager click view report link. Step4: the system displays report automatically. Step 5: the report process end
Post condition	The manager view the report
Alternative step4	If the report does not generate Step4.1: System displays the report does not generate message. Step4.2: The system go to step2.

Table 4. 9 Use case description for View Item

Use case name	View Item
Participating actor	Manager, Stock Clerk and Staff Members
Description	This use case is seen by all system users except administrator about the available item detail.
Precondition	The users login to the system and the items were already registered.
Main flow of events	Step 1: the manager, staff and stock clerk wants to see the item detail he/she must login their own page. Step2: the system open their own page. Step3: the stock clerk click manage item link and others click on view item link. Step4: the system displays the item detail.

	Step 5: the process end.
Post condition	The staff views all the information that is available.
Alternative step4	If the item not registered. Step4.1: System display item does registered message. Step4.2: The system go to step2.

Table 4. 10 Use case description for Item Request.

Use case name	**Request Item**
Participating actor	Staff Members
Description	This process is done by the staff members when they need to request an item.
Precondition	The staff members have to login to the system and they have to fill the request item form correctly.
Main flow of event	Step1: the staff wants to request the item he/she must login the staff member page. Step 2: the system open the staff member page. Step3: the staff member click Request Item link. Step 4: the system display the item requested form. Step5: the staff member fill the form. Step6: the staff member clicks on request item button. Step 7: the system validates the item detail. Step8: the system sends the request. Step9: the process ends.
Post condition	The staff member request item.
Alternative step7	If the staff member fill incorrect details Step7.1: System displays error message. Step7.2: The system go to step5.

Table 4. 11 Use case description for Return Item.

Use case name	**Returning Item**
Participating actor	Stock clerk
Description	This process is done by the Stock clerk when they staff member need to return an item.

Precondition	The Stock clerk have to login to the system and they have to fill the return item form correctly.
Main flow of event	Step1: the staff wants to return the item he/she must go to the stock clerk. Step2: the Stock clerk login to their own page. Step3: the system open the stock clerk page. Step4: the Stock clerk click Return item link. Step5: the system display the return item form. Step6: the Stock clerk fill the form and click return item button. Step 7: the system validates the item detail. Step8: the system display success message. Step9: the process ends.
Post condition	The stock clerk return item.
Alternative step7	If the stock clerk fill incorrect details. Step7.1: System displays error message. Step7.2: The system go to step5.

Table 4. 12 Use case description for Receive Response

Use case name	**Receive response**
Participating actor	Staff Members
Description	This use case is done by the staff members when the manager sends a response to them.
Precondition	The staff members have to send a request and the manager is interested to give a response to them.
Main flow of event	Step1: the staff members login to the system. Step 2: the system open the staff member page. Step3: the staff member select the receive response link. Step 4: the system displays the response information either approval or not. Step5: the staff member views the response. Step6: the process ends.
Post condition	The staff members receive an approval response or disapproval message.

Alternative step5	If the request does not responded Step5.1: System displays response does not occur message. Step9.2: The system go to step2.

Table 4. 13 Use case description for Transfer Item

Use case name	Transfer Item
Participating actor	Stock clerk
Description	This use case is done by the Stock clerk when the staff member need to transfer item to other person.
Precondition	The Stock clerk have login to their own page and they fill the transfer item form correctly.
Main flow of event	Step1: the Stock clerk login to the system. Step 2: the system open the Stock clerk page. Step3: the Stock clerk select the transfer item link. Step 4: the system displays transfer item form. Step5: the Stock clerk fill the form and click Transfer button. Step6: the system check the information validity. Step7: the system save in the database and display success message. Step6: the process ends.
Post condition	The stock clerk transfer item one staff member to another staff member.
Alternative step6	If stock clerk insert invalid information Step6.1: System displays error message. Step6.2: The system go to step4.

Table 4.14 Use case description for Approve and Disapprove Request

Use case name	Approve and Disapprove Request
Participating actor	Manager
Description	This use case is done by manager when the staff member requested item.
Precondition	The Administrator have login to their own page and the staff member request item.
Main flow of event	Step1: the manager login to the system.

	Step 2: the system open the manager page. Step3: the manager select Request link. Step 4: the system displays Request page. Step5: the manager view request and fill information and click approve or disapprove button. Step6: the system check the information validity. Step7: the system sent response to the staff member and display success message. Step9: the process ends.
Post condition	The manager approved or disapproved the staff member request.
Alternative step6	If manager fill incorrect information Step6.1: System displays error message. Step6.2: The system go to step4.

Table 4. 15 Use case description for Delete data

Use case name	Deleting Data
Participating actor	Administrator
Description	This use case is done by the Administrator when data's are needed to deleted from recycle bin.
Precondition	The administrator has to login to the system and he/she wants to delete data from recycle bin permanently.
Main flow of events	Step1: the administrator wants to delete data from recycle bin he/she login to the system. Step2: The system open administrator page. Step2: The administrator click on Manage Recycle bin link. Step3: The system displays Manage Recycle bin page. Step4: The administrator click Delete button Step5: The system display message "Do you want to delete this data?" to the administrator. Step6: The administrator selects the yes option. Step7: The system delete the data from recycle bin. Step8: The system ends.

Post condition	The data will be deleted from the recycle bin.
Alternative step6	If the administrator select no option Step6.1: System does not delete the data. Step6.2: The system go to step3.

Table4. 16 Use case description for Restore Data

Use case name	Restore Data
Participating actor	Administrator
Description	This use case is done by the Administrator when data's are needed to restore from recycle bin.
Precondition	The administrator has to login to the system and he/she wants to restore data from recycle bin.
Main flow of events	Step1: the administrator wants to delete data from recycle bin he/she login to the system. Step2: The system open administrator page. Step2: The administrator click on Manage Recycle bin link. Step3: The system displays Manage Recycle bin page. Step4: The administrator click Restore button Step5: The system display message "Do you want to Restore this data?" to the administrator. Step6: The administrator selects the yes option. Step7: The system restore the data from recycle bin. Step8: The system ends.
Post condition	The data will be restore from the recycle bin.
Alternative step6	If the administrator select no option Step6.1: System does not restore data. Step6.2: The system go to step3.

4.1.1.3. Use Case Scenario

Scenario tells who is using the system and what they are trying to accomplish. Provides a realistic, fictional account of a user's constraints, when and where they are working, why they are using the system, and what they need the system to do for them. Describes any relevant aspects of the context in which the user is working with the system, including what information the user has on hand when beginning to use the system. The following are

describing scenario of how the user use the systems of the institution.

Scenario Name: Login

Participant actor: Clerk/Manager/Administrator/Staff (users)

Flow of Event: When Clerk/Manager/Administrator/Staff want to use the system, they first open any browser and browse the system using system address (URL) then the system display the login page. He/she open their private page; he/she must first log into the system. After this he/she inters or fills exact (correct) user name, password and select their own role then he/she clicks" login" button if the user name, password and role is not correct the system displays error message like your password is incorrect try again, but if the user name, password and role is correct display user account so he/she inters his/her own full page then he/she works his/her work in the system perfectly.

Scenario Name: Change Password and Username

Participant actor: Clerk/Manager/Administrator/Staff (users)

Flow of Event: When Clerk/Manager/Administrator/Staff Administrator first open the browser and browse the system using system address (URL) then the system display the login page, then he/she inters their own page, he/she must fill the exact user name, password and select the role then click login button. If the user name, password and role is correct the system open the administrator page otherwise the system display error message. The system open their own page is now displayed from the different categories he/she should select on the link 'change username and passwords 'pressing this link, then the system is display the form and change button. The system user fill necessary information on the form and click change button. The system checks whether the input is valid or not and also if unfilled input box exists or not, and if it has error the system displays error message and if not, then the system change username and passwords and displays a message like "You are successfully change username and passwords".

Scenario Name: Create account

Actor: Administrator

Flow of Event: At first the administrator will open the browser. He/she browses so that a login page will be displayed. He/she fill user name, password and select the role. Administrator fills the valid user name, password, select the role and then click on the button 'login'. An admin page which consists the different task of the administrator including a manage account link will be displayed now the admin can create account for

the authorized users by pressing the manage account link then the admin open the manage account page and click create account button. Next a form saying create account will be shown the form is to make fill the admin; first name, last name, employee id, email, phone number, block number, office number, registration date, status, username, and password of the user who is going to be created an account. In this way he/she can fill the form according to the required information and then click the button create. If the user information is valid the system will save the information into the database and display a message saying "a user account is successfully created". Otherwise the system display error message saying "Invalid user information".

Scenario Name: Inactive account

Actor: Administrator

Flow of Event: Administrator first open the browser, and browse the system using system address (URL) then the system display the login page, then he/she inters the Administrator page, he/she must fill the exact user name, password and select the role then click login button. If the user name, password and role is correct the system open the administrator page otherwise the system display error message. The administrator page is now displayed from the different categories he/she should select on the link 'manage account 'pressing this link, then the system is display all users detail to including inactivate/activate, update button. Administrator views all the available information's of the account and if it is necessary to be activate/inactivated him/her press the active/inactive button System will activate/inactivate the information from the database and display a message with "account is inactivate/activate successfully".

Scenario Name: Update account

Actor: administrator

Flow of Event: Administrator first open the browser, and browse the system using system address (URL) then the system display the login page, then he/she inters the administrator page, he/she must fill the exact user name, password and select the role then click login button. If the user name, password and role is correct the system open the administrator page otherwise the system display error message. The administrator page is now displayed from the different categories he/she should select on the link 'manage account 'pressing

this link, then the system is display all users detail to including inactivate/activate, update button. Administrator views all the available information's of the account and if it is necessary to be updated he/she fill all the updated information and press the update button. System will update the selected account and save the information to the database and display a message account is updated successfully.

Scenario Name: View User Activity

Actor: administrator

Flow of Event: Administrator first open the browser, and browse the system using system address (URL) then the system display the login page, then he/she inters the administrator page, he/she must fill the exact user name, password and select the role then click login button. If the user name, password and role is correct the system open the administrator page otherwise the system display error message. The administrator page is now displayed from the different categories he/she should select on the link 'Manage Activity' pressing this link, then the system is display all user activity detail to including delete button. Administrator views all user activity

Scenario Name: Delete User Activity

Administrator: Administrator

Flow of Event: Administrator first open the browser, and browse the system using system address (URL) then the system display the login page, then he/she inters the administrator page, he/she must fill the exact user name, password and select the role then click login button. If the user name, password and role is correct the system open the administrator page otherwise the system display error message. The administrator page is now displayed from the different categories he/she should select on the link 'Manage Activity' pressing this link, then the system is display all user activity detail to including delete button. Administrator views all user activity and if it is unnecessary to be delete he/she click delete button. System will delete the selected data and delete the information to the database and display a message data is delete successfully.

Scenario Name: Restore Data

Actor: administrator

Flow of Event: Administrator first open the browser, and browse the system using system address (URL) then the system display the login page, then he/she inters the admin page, he/she must fill the exact user name, password and select the role then click login button. If the user name, password and role is correct the system open the administrator page otherwise the system display error message. The administrator page is now displayed from the different categories he/she should select on the link ‘control recycle bin‘ pressing this link, then the system is display all deleted data detail to including restore/delete button. Administrator views all deleted data and if it is necessary to be restore he/she click restore button. System will restore the selected data and save the information to the database and display a message data is restored successfully.

Scenario Name: Delete Data

Actor: administrator

Flow of Event: Administrator first open the browser, and browse the system using system address (URL) then the system display the login page, then he/she inters the admin page, he/she must fill the exact user name, password and select the role then click login button. If the user name, password and role is correct the system open the administrator page otherwise the system display error message. The administrator page is now displayed from the different categories he/she should select on the link ‘control recycle bin‘ pressing this link, then the system is display all deleted data detail to including restore/delete button. Administrator views all deleted data and if it is unnecessary to be delete permanently he/she click delete button. System will delete permanently the selected data and delete the information to the database and display a message data is deleted successfully.

Scenario Name: View account

Actor: administrator

Flow of Event: Administrator first open the browser, and browse the system using system address (URL) then the system display the login page, then he/she inters the admin page, he/she must fill the exact user name, password and select the role then click login button. If the user name, password and role is correct the system open the administrator page otherwise the system display error message. The administrator page is now displayed from the different categories he/she should select on the link ‘manage account ‘pressing this link,

then the system is display all users detail to including inactivate/activate, update button then the administrator view the users information.

Scenario Name: Item registration, update, search, view and delete

Actor: Stock clerk

Flow of Event: Stock clerk first open the browser, and browse the system using system address (URL) then the system display the login page, then he/she inters the stock clerk page, he/she must fill the exact user name, password and select the role then click login button. If the user name, password and role is correct the system open the stock clerk page otherwise the system display error message. The Stock clerk page is now displayed from the different categories he/she should select on the link 'manage items 'pressing this link, then the system is display all items detail to including Add items/ update/ search/ view/ delete button then the system prepare the respective actions of these buttons. After that the Stock clerk fills full information to the form and click add button. The system checks whether the input is valid or not and also if unfilled input box exists or not, and if it has error the system displays error message and if not, then the system displays a message like you are successfully recorded/ updated /deleted or your request is successfully sent.

Scenario Name: Approve/disapprove request

Actor: Manager

Flow of Event Manager first open the browser, and browse the system using system address (URL) then the system display the login page, then he/she inters the manager page, he/she must fill the exact user name, password and select the role then click login button. If the user name, password and role is correct the system open the manager page otherwise the system display error message. The manager page is now displayed from the different categories he/she should select on the link 'Requested items 'pressing this link, then the system is display all requested items to including approve/ disapprove radio button, text area and send button then he/she select radio button and click send button. If manager select approve radio button the system disabled the text area then he/she click send button the system approve the request and displays the message "request approved successfully". Otherwise the manager select disapprove radio button the system enabled text area for

writing reason for the staff (users) then click send button the system disapprove the request and displays the message “request disapproved successfully”.

Scenario Name: View report, comment and item detail

Actor: Manager

Flow of Event: Manager first open the browser, and browse the system using system address (URL) then the system display the login page, then he/she inters the manager page, he/she must fill the exact user name, password and select the role then click login button. If the user name, password and role is correct the system open the manager page otherwise the system display error message. The system open to the manager page and he/she visit the page and should click on the View report/ comment /item detail links, then the system display the respective pages of these links. After that the manager view full information about View report/ comment /item detail.

Scenario Name: view item, view response, request item and comment

Actor: Customer/staff

Flow of Event: staff first open the browser, and browse the system using system address (URL) then the system display the login page, then he/she inters the staff page, he/she must fill the exact user name, password and select the role then click login button. If the user name, password and role is correct the system open the manager page otherwise the system display error message. The system open to the staff page and he/she visit the page and should click on the View item/ view response/ request comment or request item links, then the system display the respective pages of these links. After that the staff view full information or fills to the form and submits the form for request and comment. Then the system checks whether the input is valid or not and also if unfilled input box exists or not, and if it has error the system displays error message and if not, then the system displays a message like you are comment/requested successfully.

4.2. Object Model

4.2.1. Class Diagram

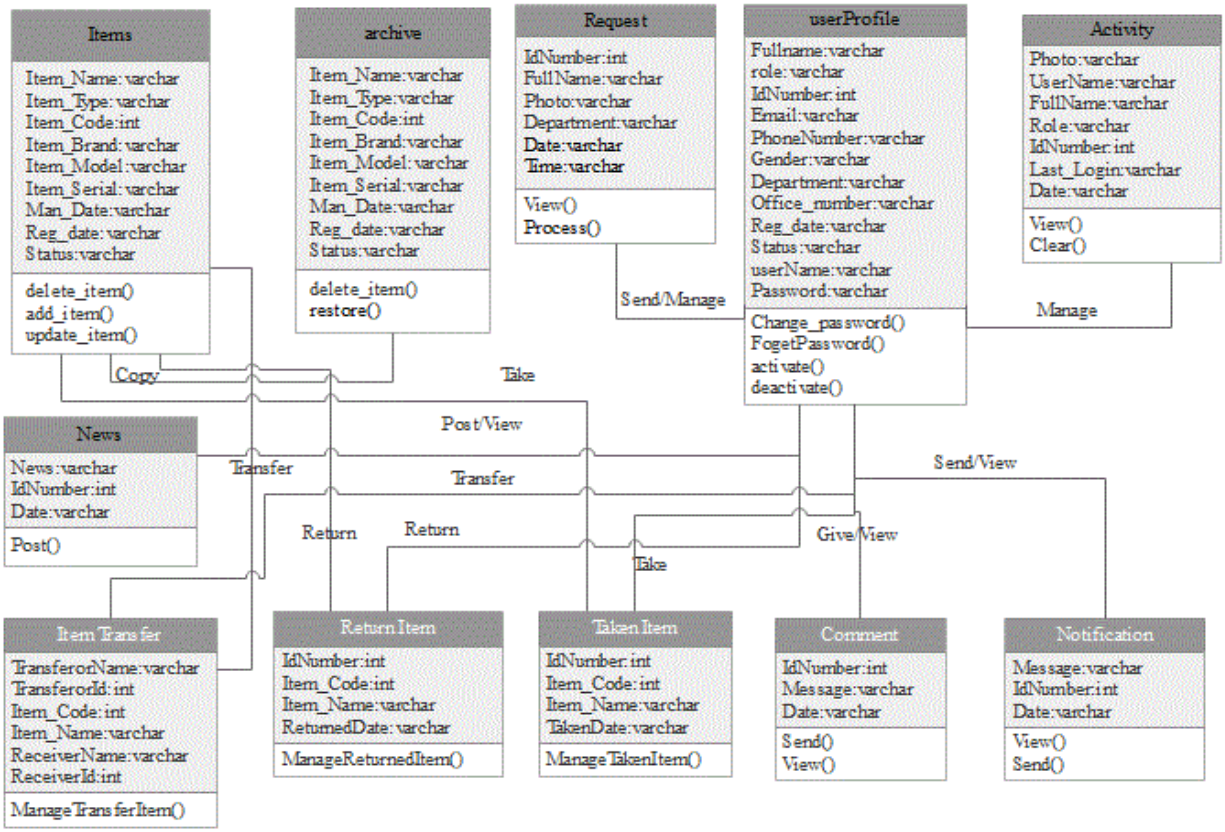


Figure 4.9 Class Diagram

4.2.2. Data Dictionary

Table 4. 17 Data Dictionary for user

Attributes	Data Type	Data Size	Other information (Constraints)
Full Name	Varchar	50	Not Null
Role	Varchar	15	Not Null
ID Number	Int	11	Primary Key
Email	Varchar	15	Not Null

Phone Number	Varchar	12	Not Null
Gender	Varchar	7	Not Null
Department	Varchar	20	Not Null
Block Number	Varchar	10	Not Null
Office Number	Varchar	10	Not Null
Registration Date	Varchar	15	Not Null
User name	Varchar	30	Not Null
Statues	Varchar	25	Not Null

Table 4. 18 Data dictionary for items

Attributes	Data Type	Data Size	Other information (Constraints)
Item Name	Varchar	20	Not Null
Item Type	Varchar	15	Not Null
Item Code	Int	11	Primary Key
Item Brand	Varchar	15	Not Null
Item Model	Varchar	15	Not Null
Item Serial	Varchar	20	Not Null
Manufacture Date	Varchar	15	Not Null
Registration Date	Varchar	15	Not Null
Statues	Varchar	1	Not Null

Table 4. 19 Data dictionary for transfer item

Attributes	Data Type	Data Size	Other information (Constraints)
Transferor Name	Varchar	15	Not Null
Transferor ID	Int	11	Primary Key
Item Name	Varchar	20	Not Null
Item Code	Int	11	Primary Key

Receiver Name	Varchar	15	Not Null
Receiver ID	Varchar	15	Primary Key

Table 4. 20 Data Dictionary for return items

Attributes	Data Type	Data Size	Other information (Constraints)
ID Number	Int	15	Primary Key
Item Name	Varchar	20	Not Null
Item Code	Int	15	Primary Key
Returned date	Varchar	15	Not Null

Table 4. 21 Data Dictionary for Taken Items

Attributes	Data Type	Data Size	Other information (Constraints)
Employee ID	Int	15	Foreign Key
Item Name	Varchar	20	Not Null
Item Code	Int	15	Primary Key
Taken date	Varchar	15	Not Null

Table 4.22 Data Dictionary for Comment

Attributes	Data Type	Data Size	Other information (Constraints)
Employee ID	Int	15	Primary Key
Message	Varchar	200	Not Null
Date	Varchar	15	Not Null

Table 4. 23 Data Dictionary for Notification

Attributes	Data Type	Data Size	Other information (Constraints)
Employee ID	Int	15	Primary Key
Message	Varchar	200	Not Null
Date	Varchar	15	Not Null

4.3. Dynamic Model

4.3.1. Sequence Diagram

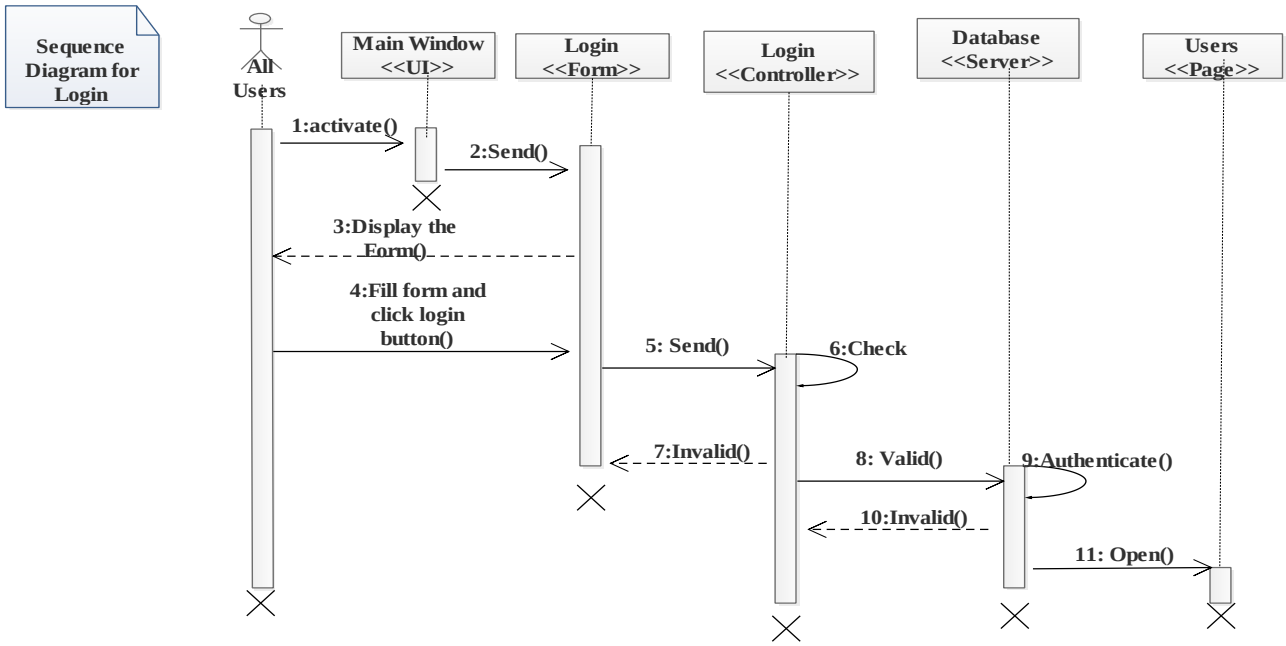


Figure 4.9 Sequence Diagram for Login

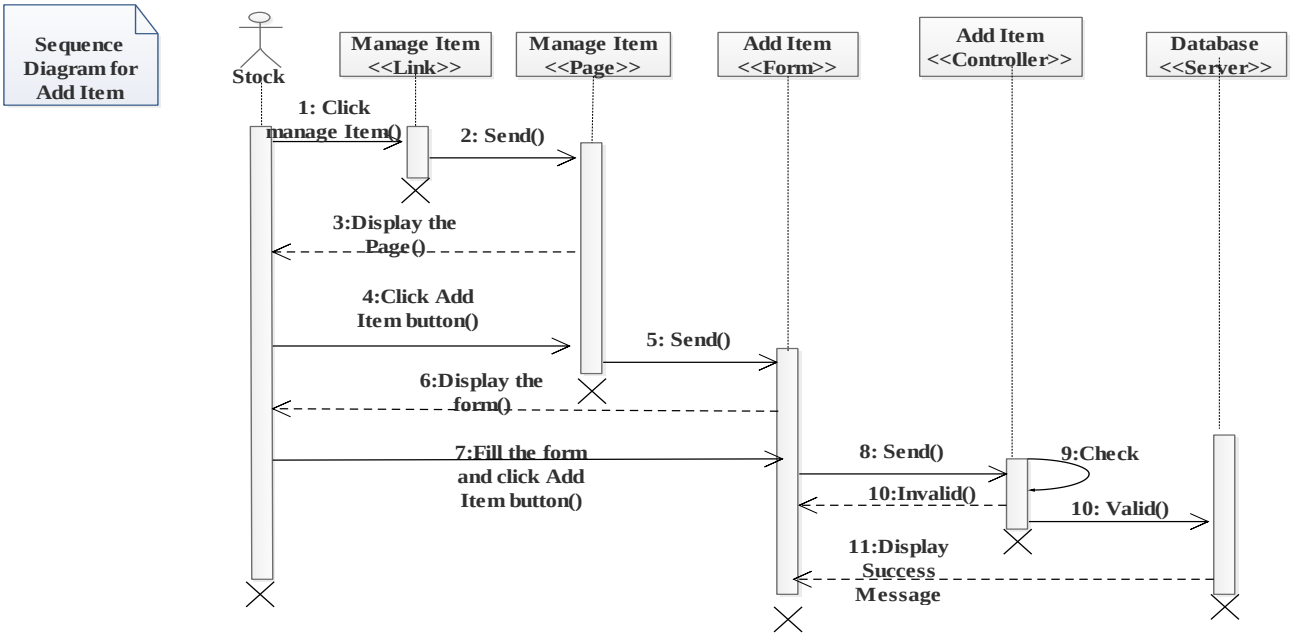


Figure 4.10 Sequence Diagram for Add Item

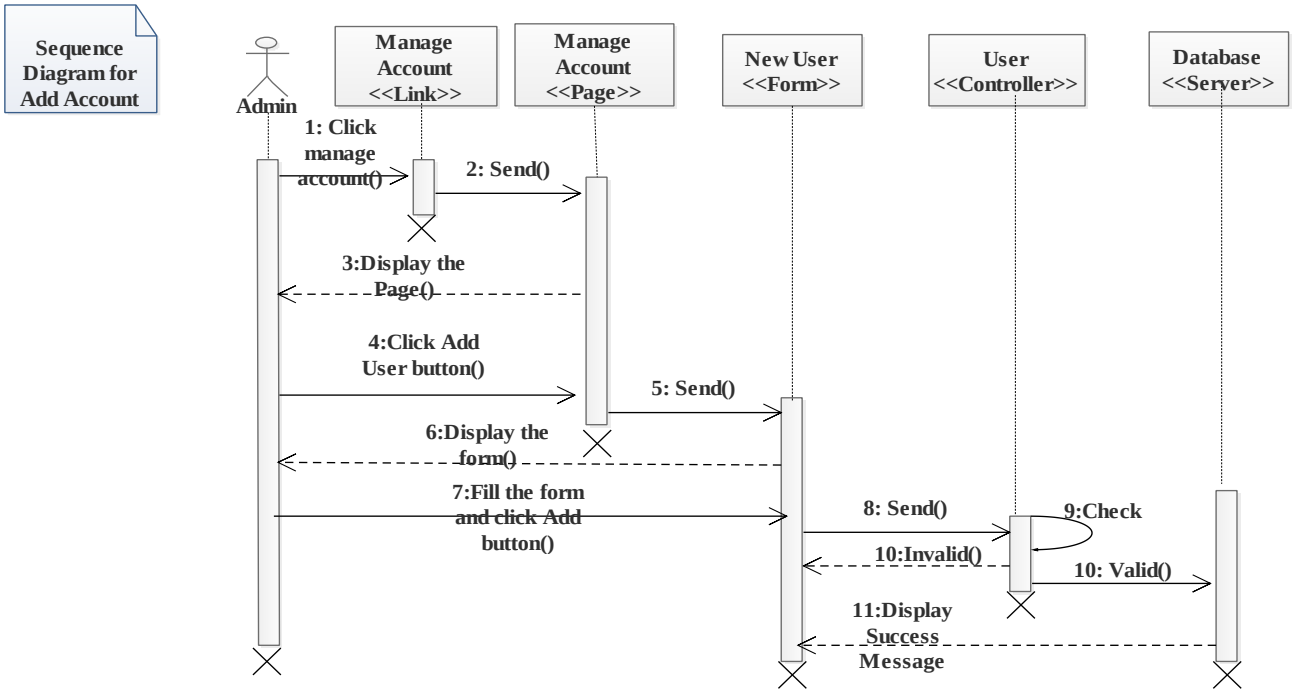


Figure 4.11 Sequence Diagram for Add Account

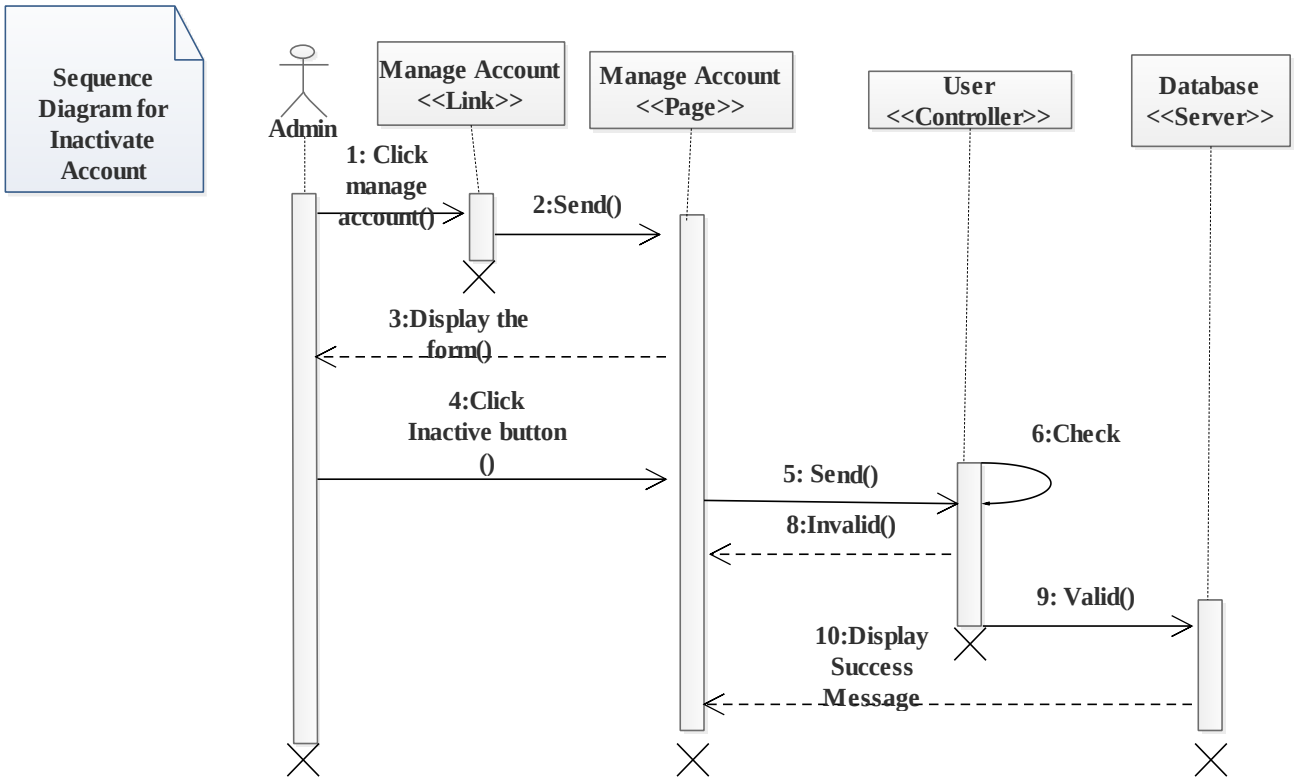


Figure 4.12 Sequence Diagram for Inactivate Account

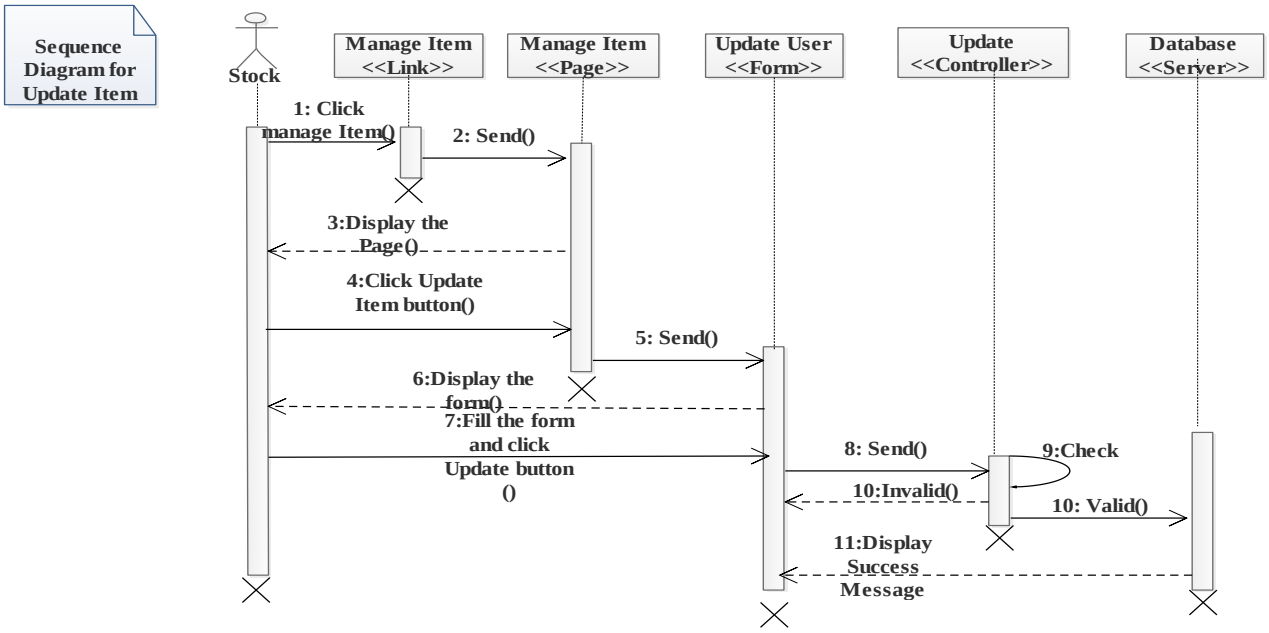


Figure 4.13 Sequence Diagram for Update Item

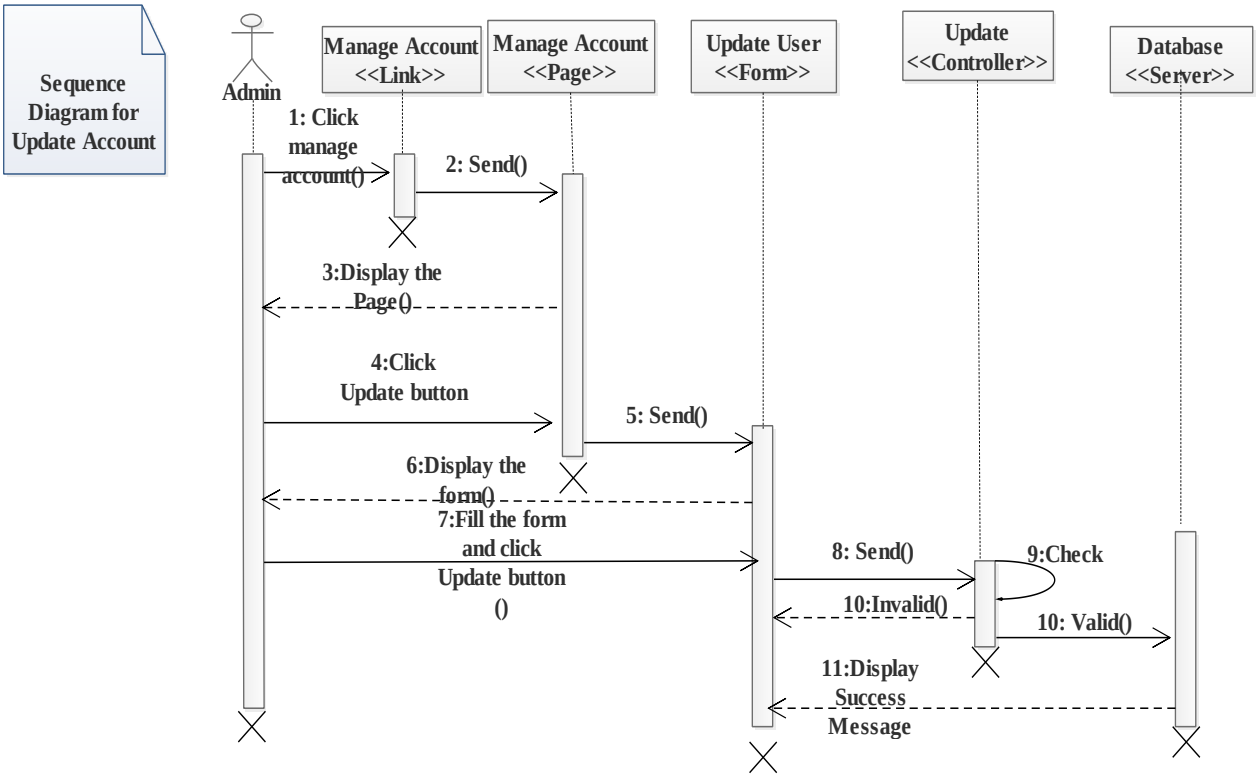


Figure 4.14 Sequence Diagram for Update Account

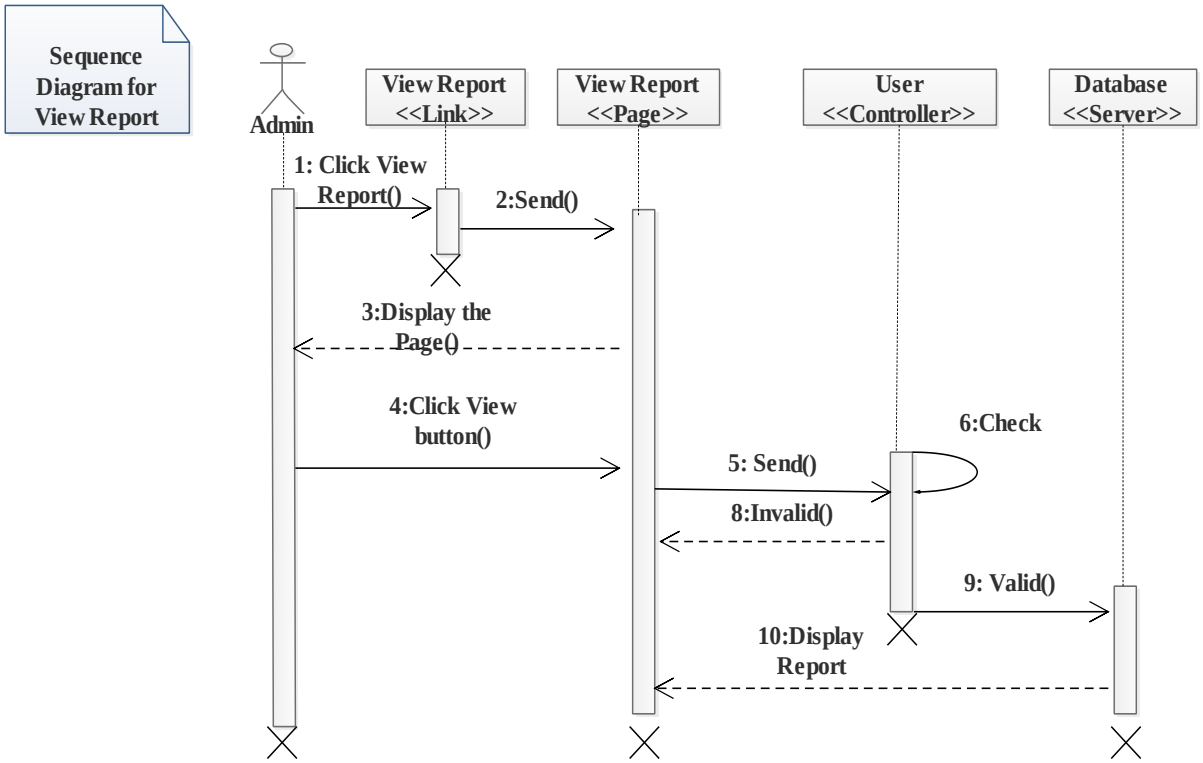


Figure 4.15 Sequence Diagram for View Report

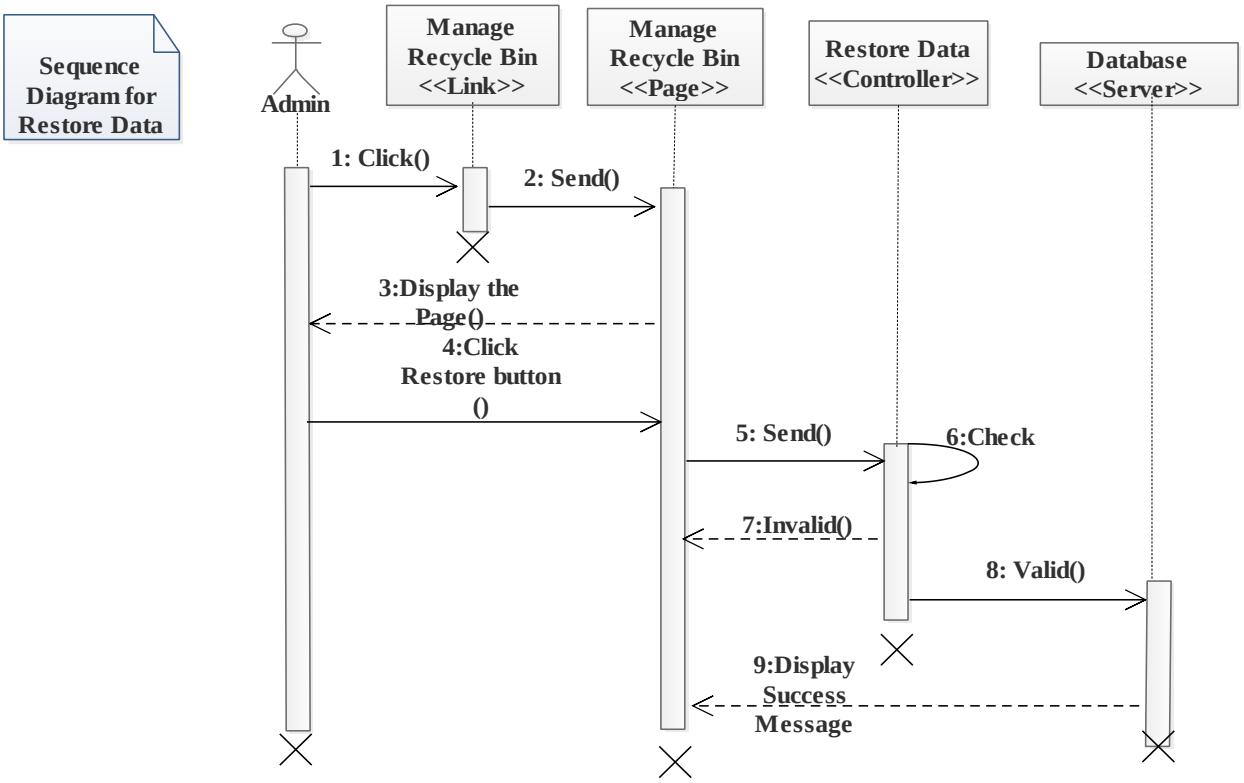


Figure 4.16 Sequence Diagram for Restore Data

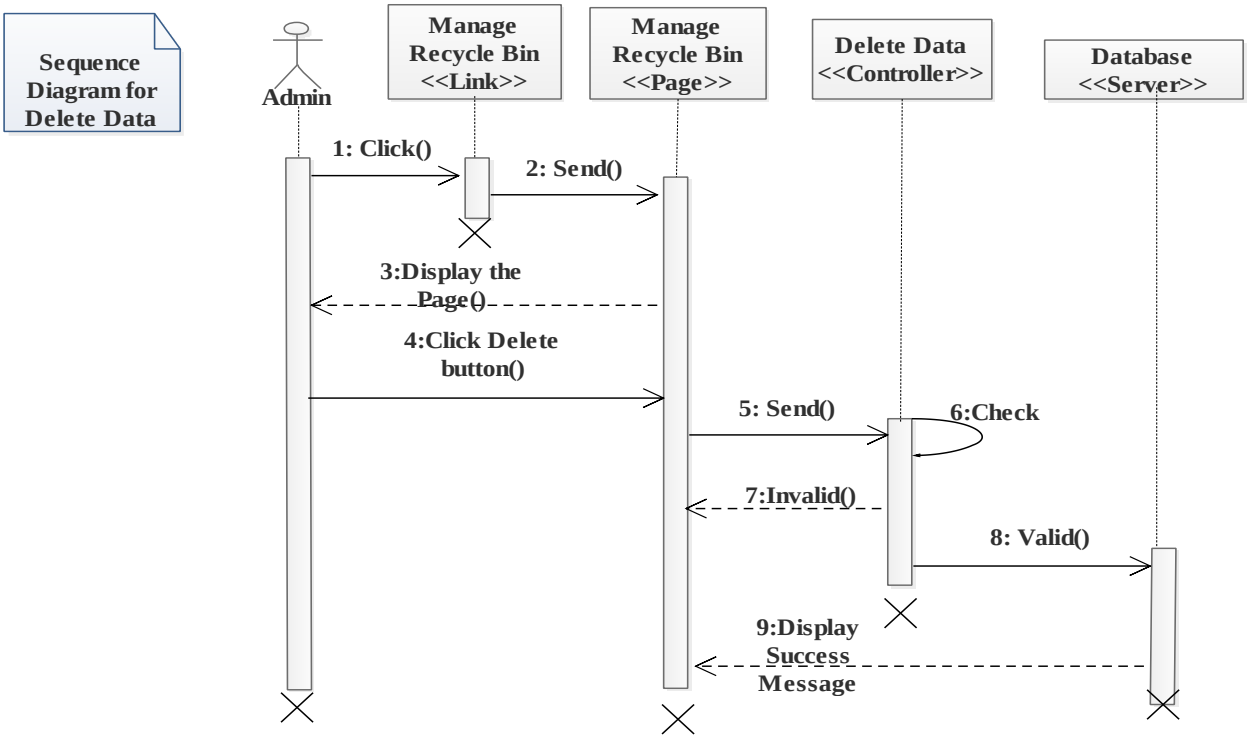


Figure 4.17 Sequence Diagram for Delete Data

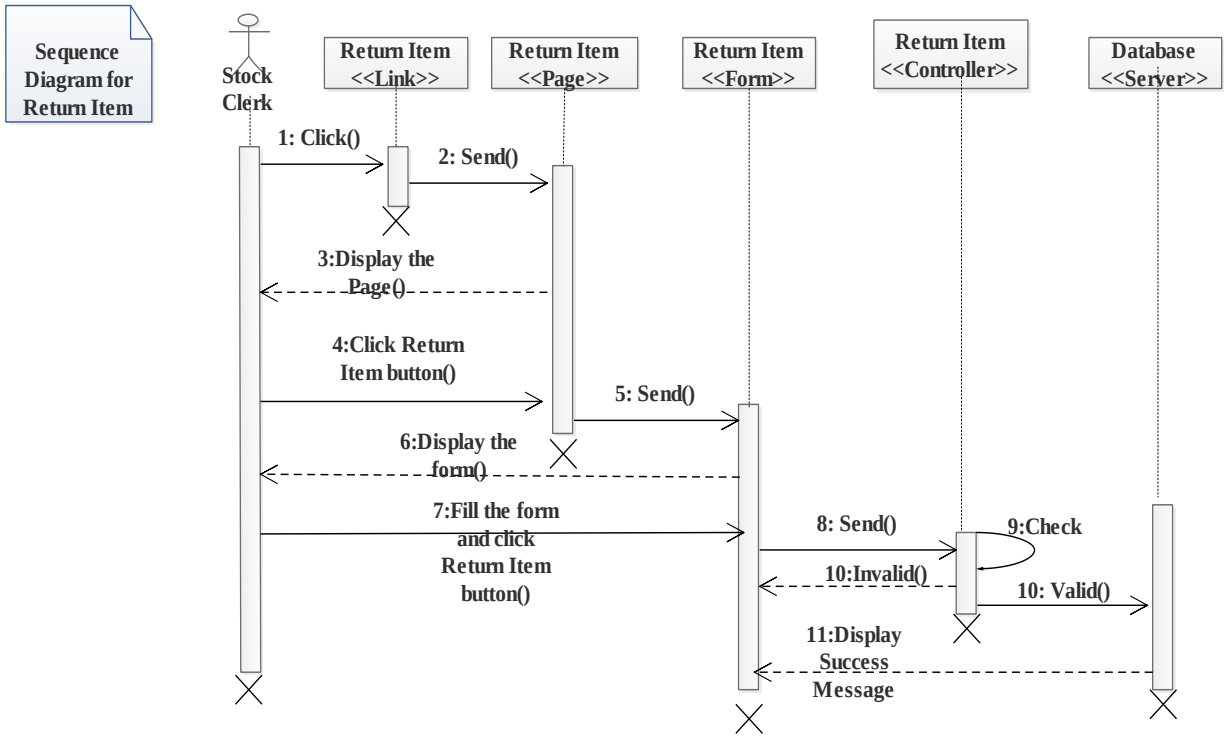


Figure 4.18 Sequence Diagram for Return Item

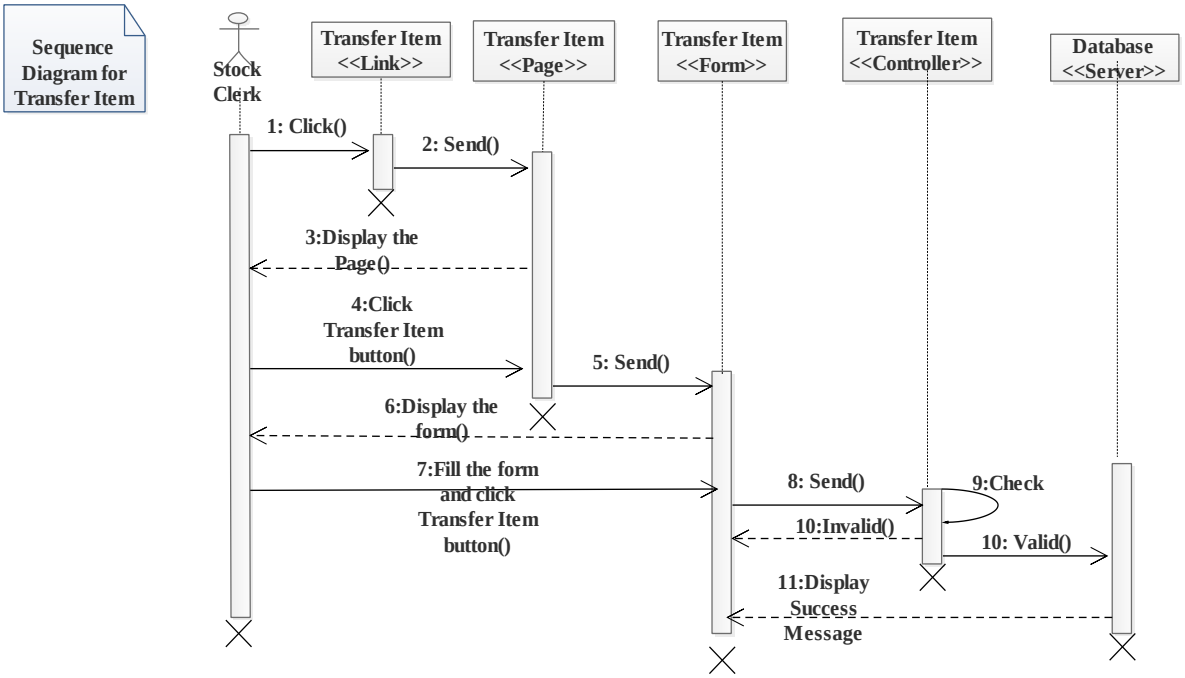


Figure 4.19 Sequence Diagram for Transfer Item

4.3.2. Activity Diagram

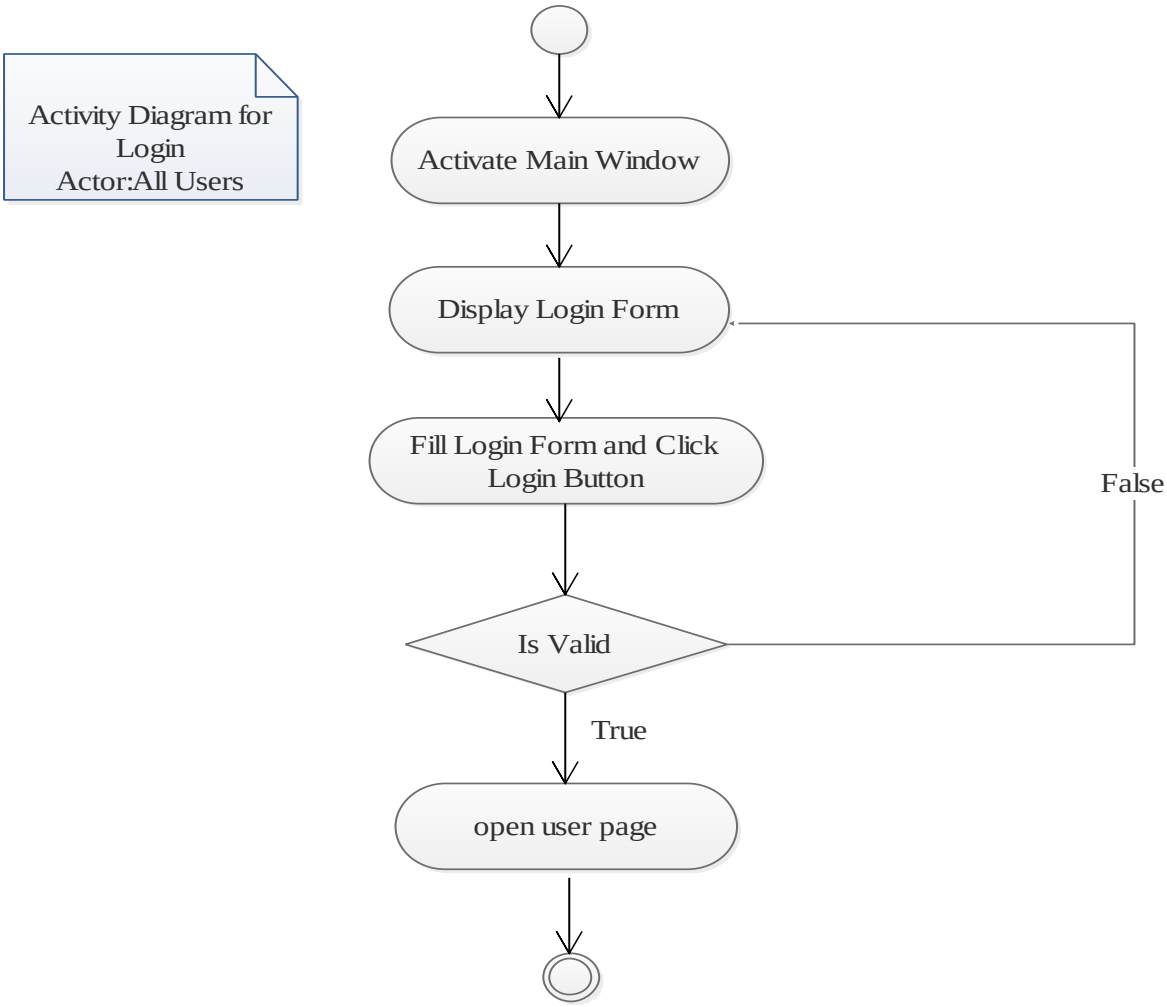


Figure 4.20 Activity Diagram for Login

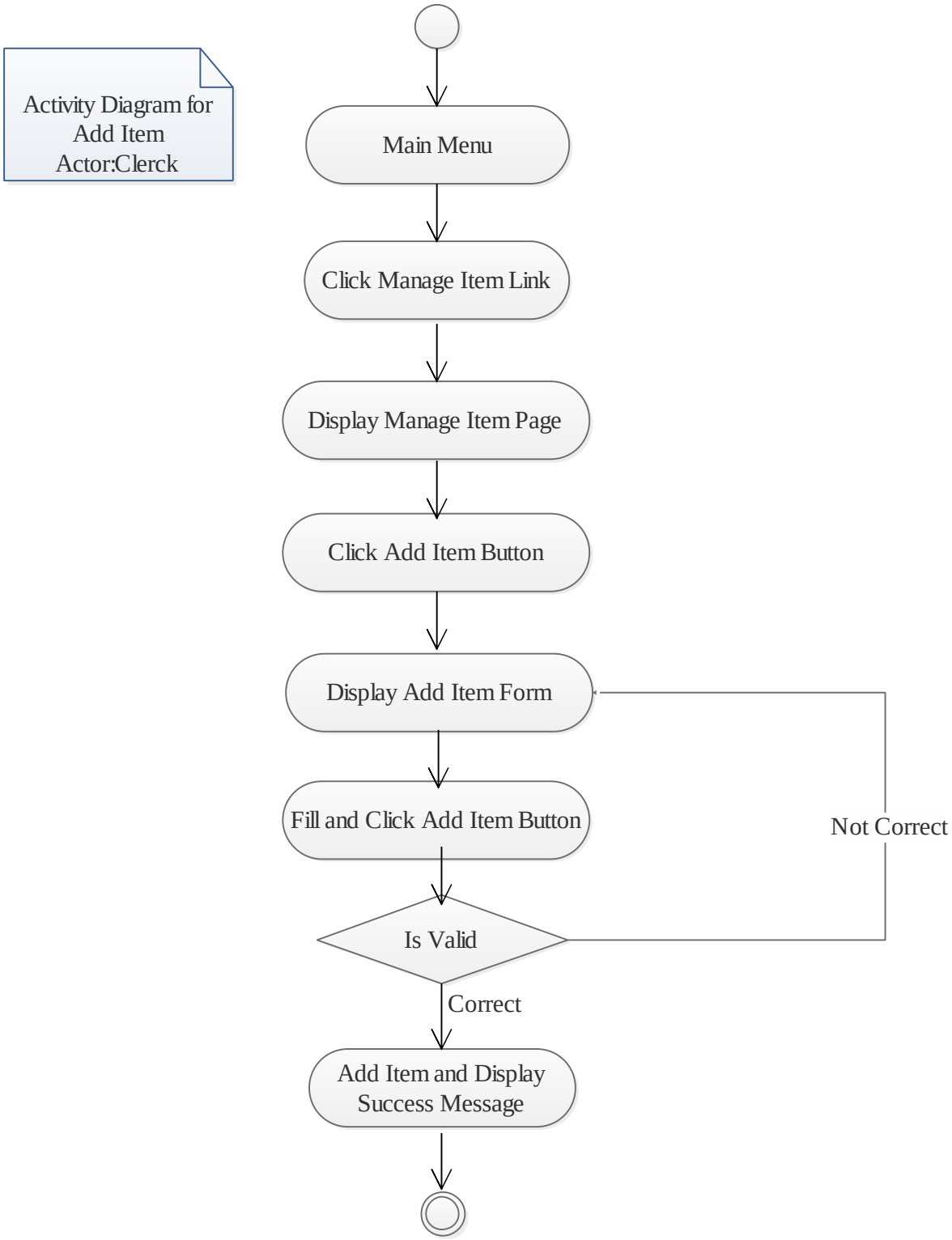


Figure 4.21 Activity Diagram for Add Item

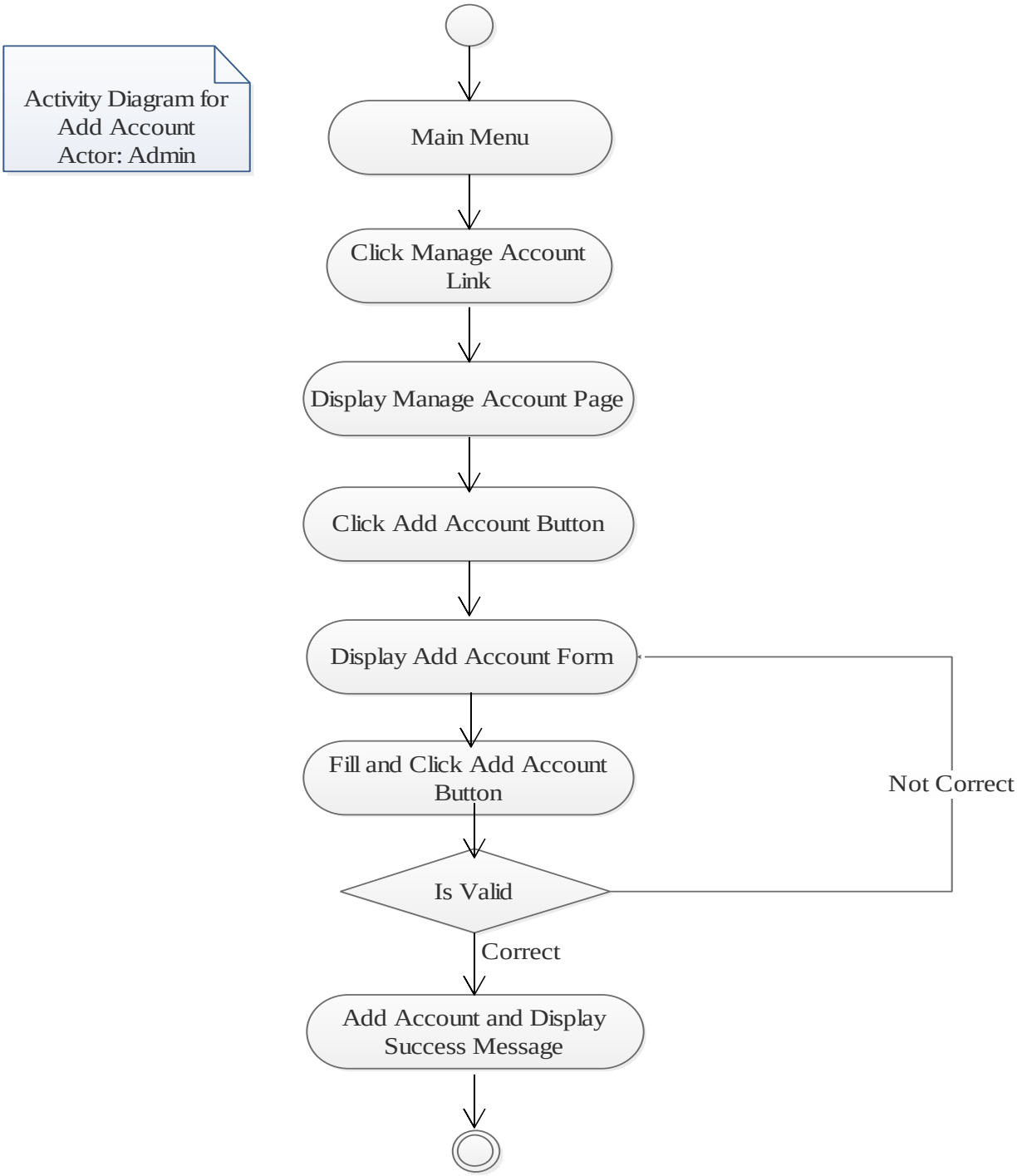


Figure 4.22 Activity Diagram for Add Account

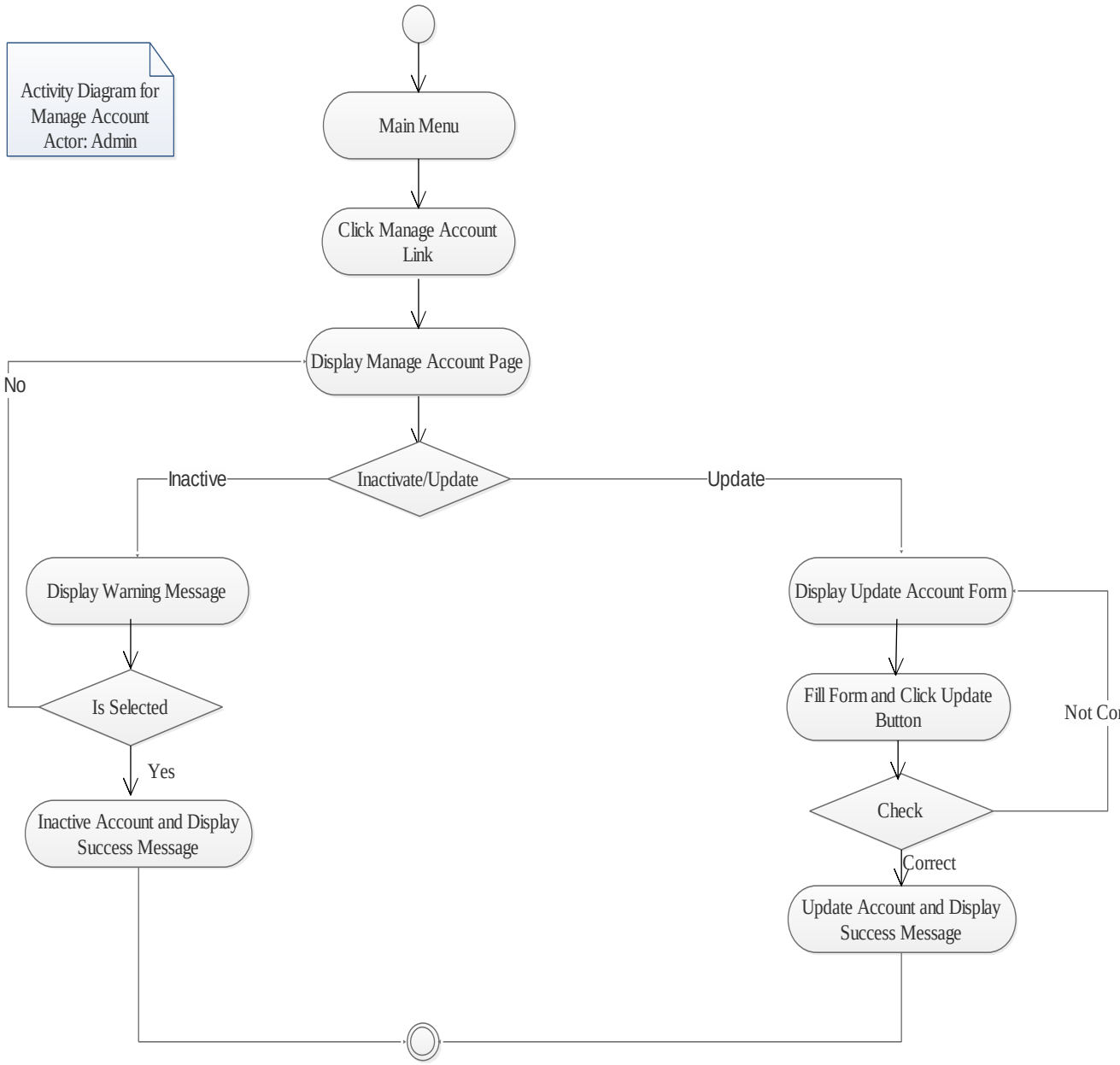


Figure 4.23 Activity Diagram for Manage Account

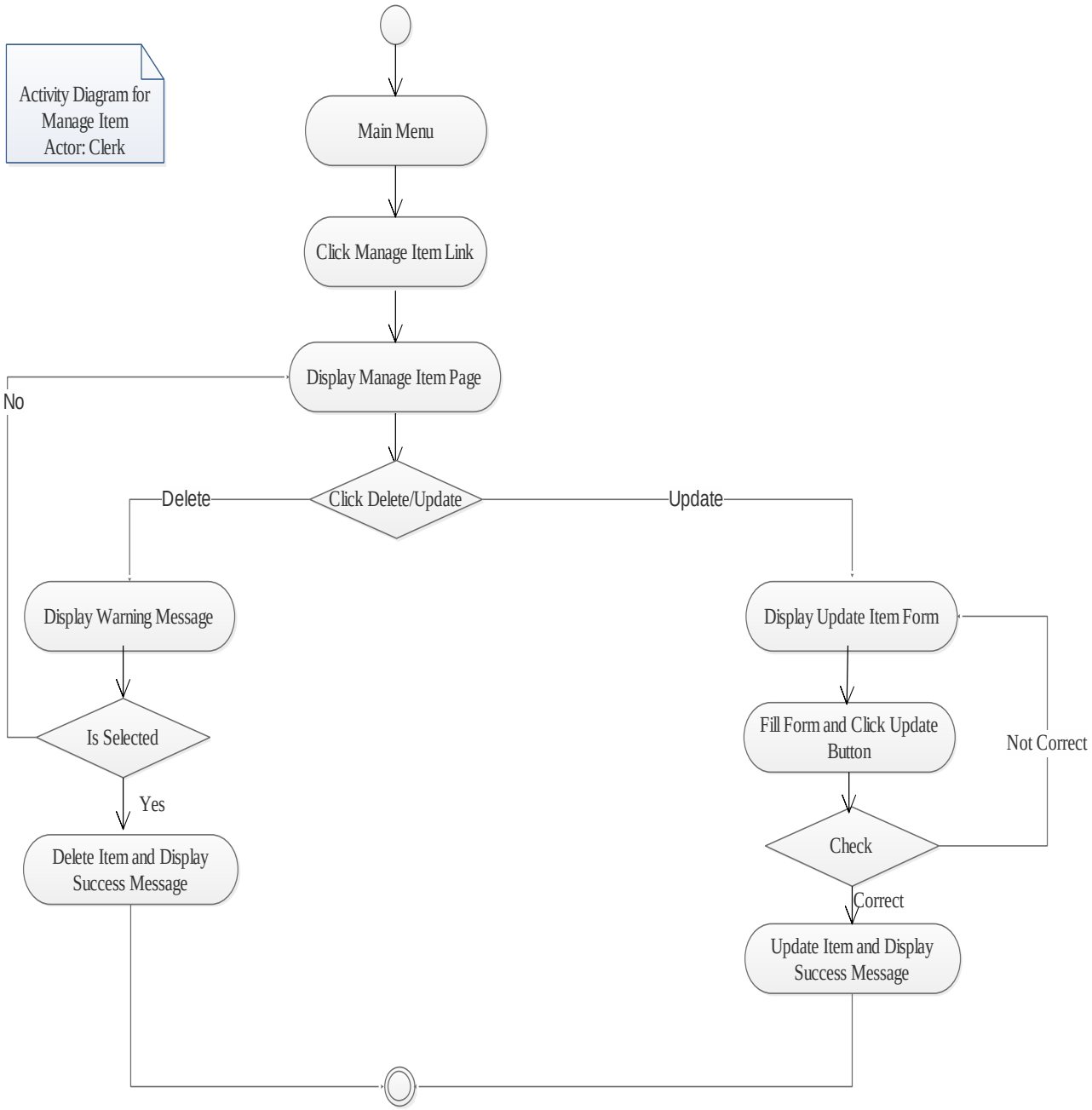


Figure 4.24 Activity Diagram for Manage Item

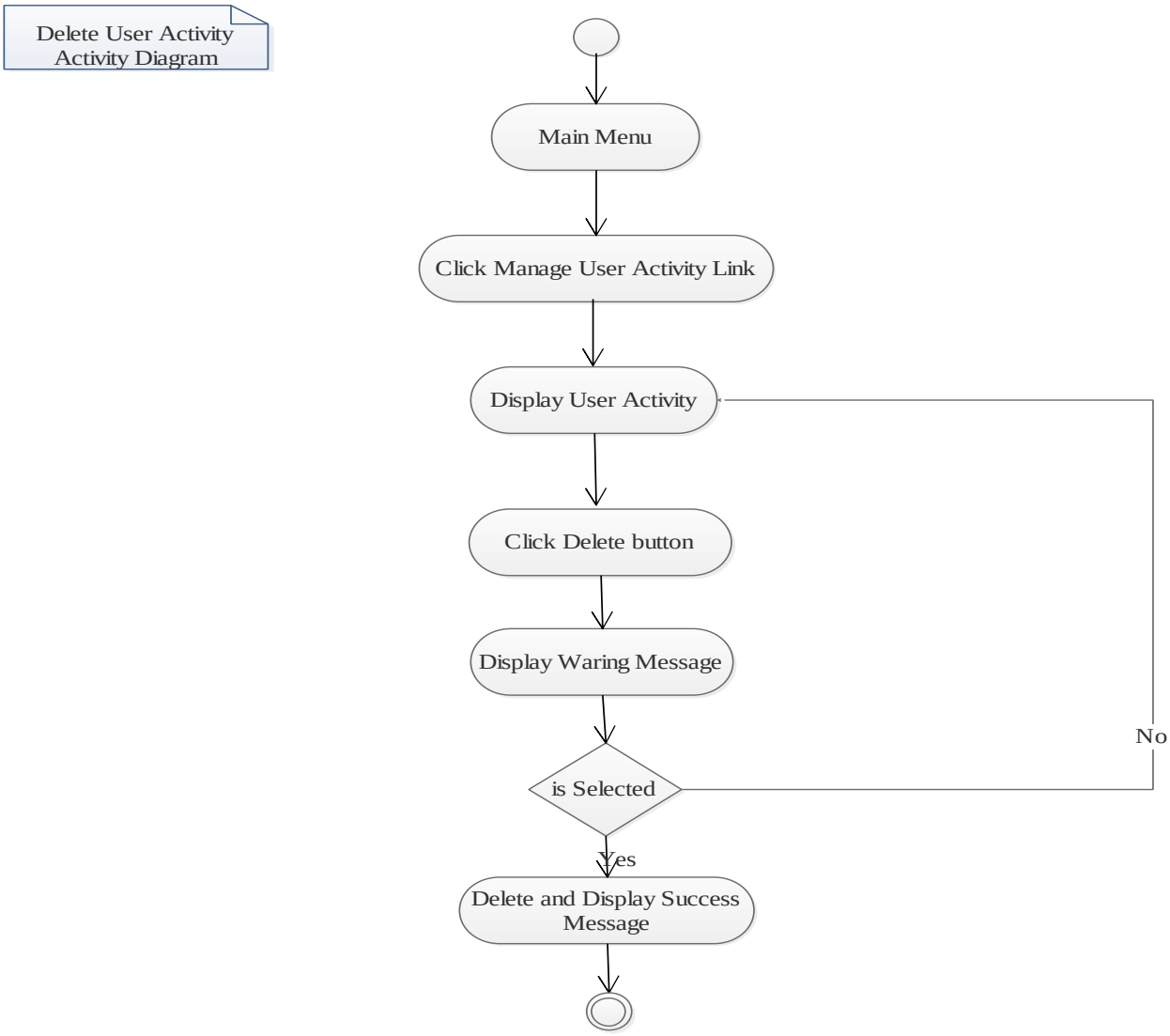


Figure 4.25 Activity Diagram for Delete User Activity

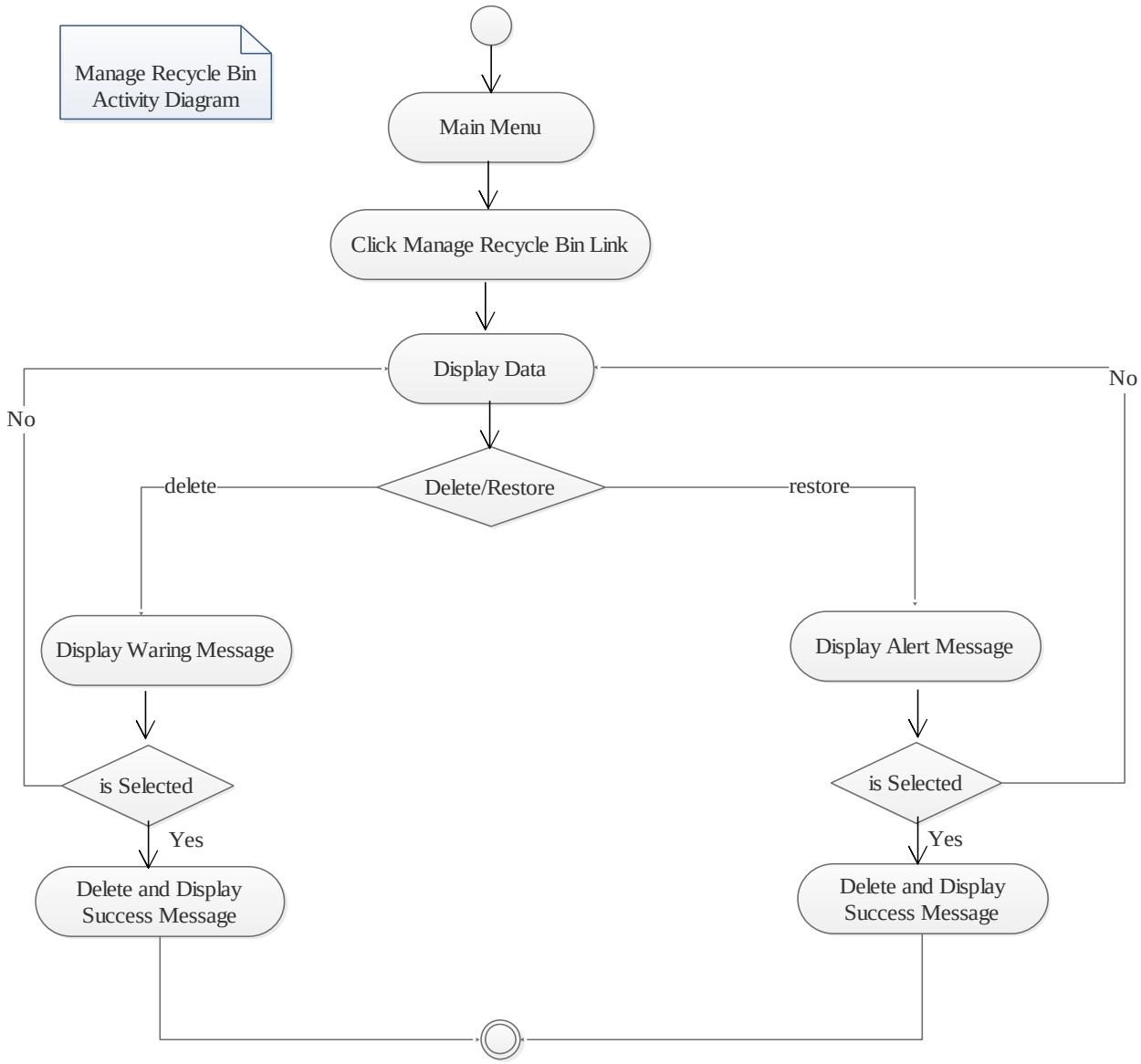


Figure 4.26 Activity Diagram for Manage Recycle Bin

4.3.3. State Chart Diagram

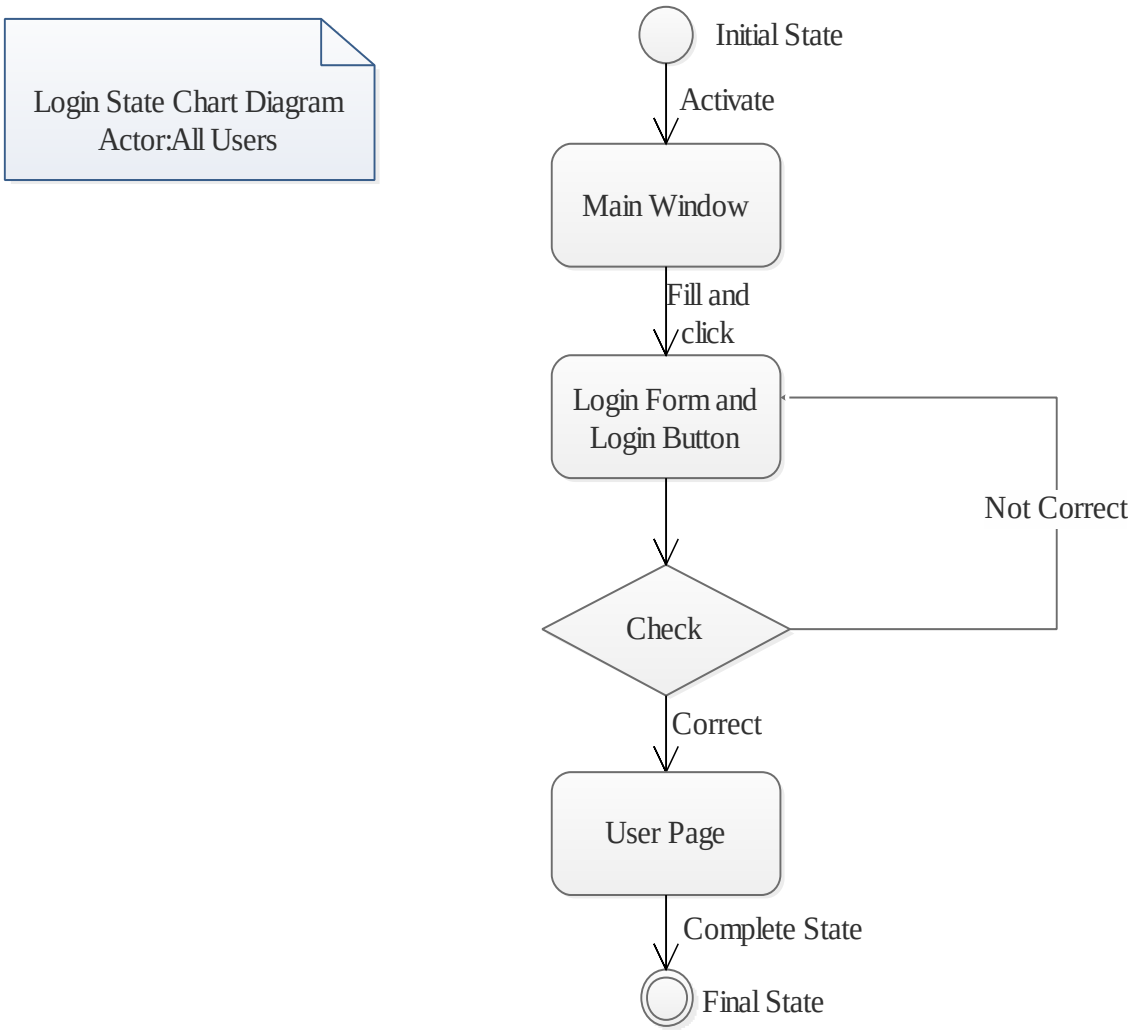


Figure 4.27 State Chart Diagram for Login

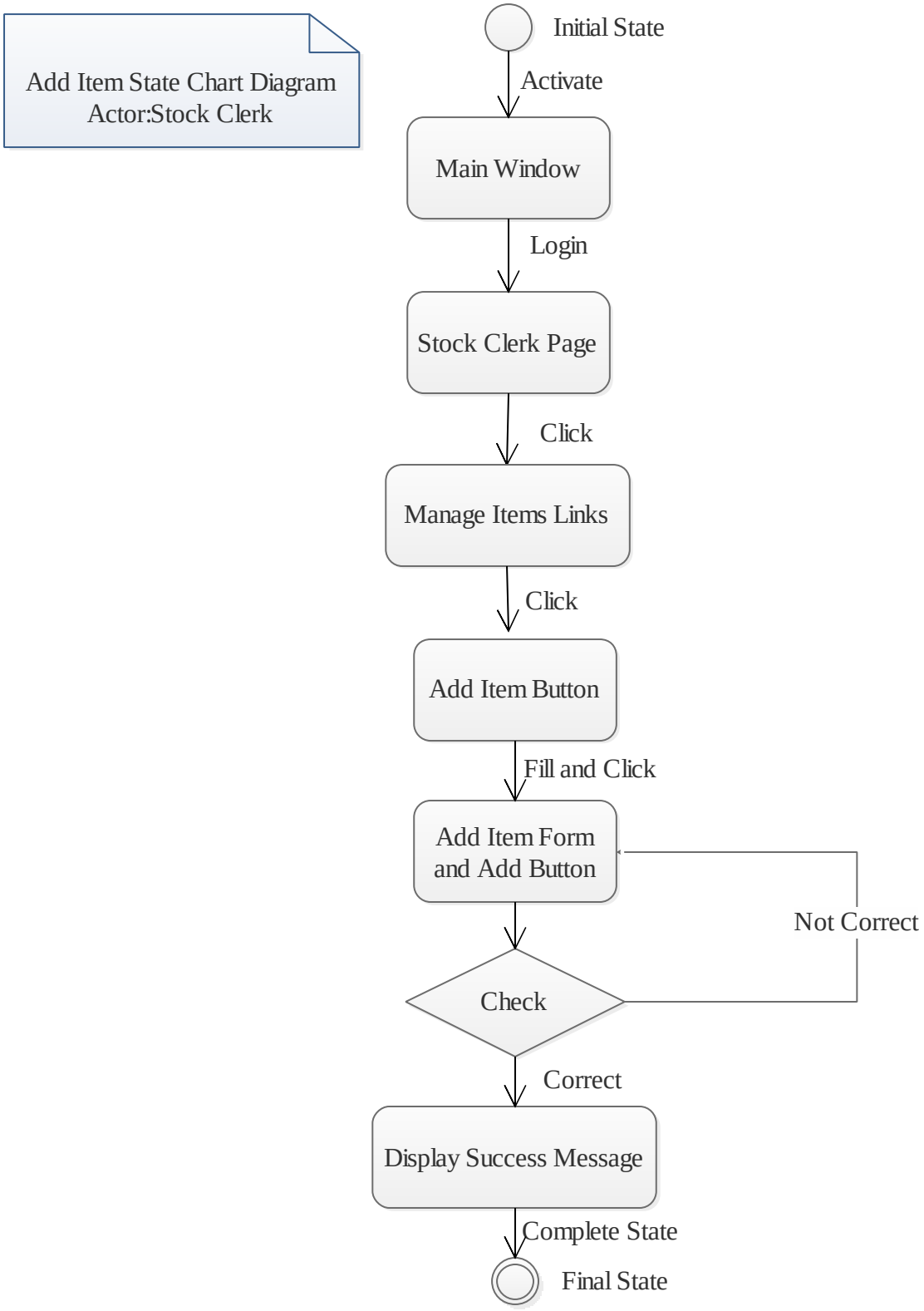


Figure 4.28 State Chart Diagram for Add Item

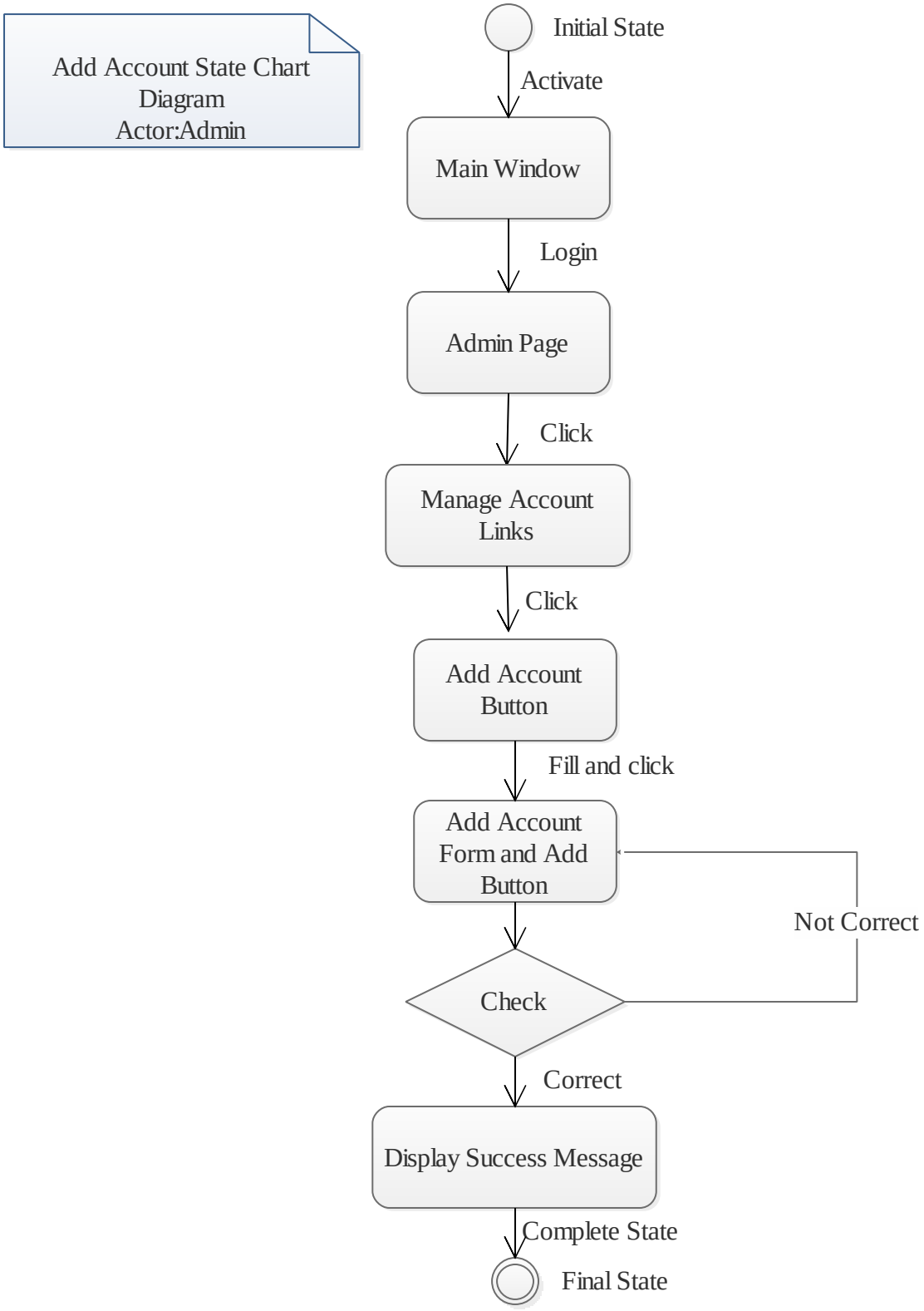


Figure 4.29 State Chart Diagram for Add Account

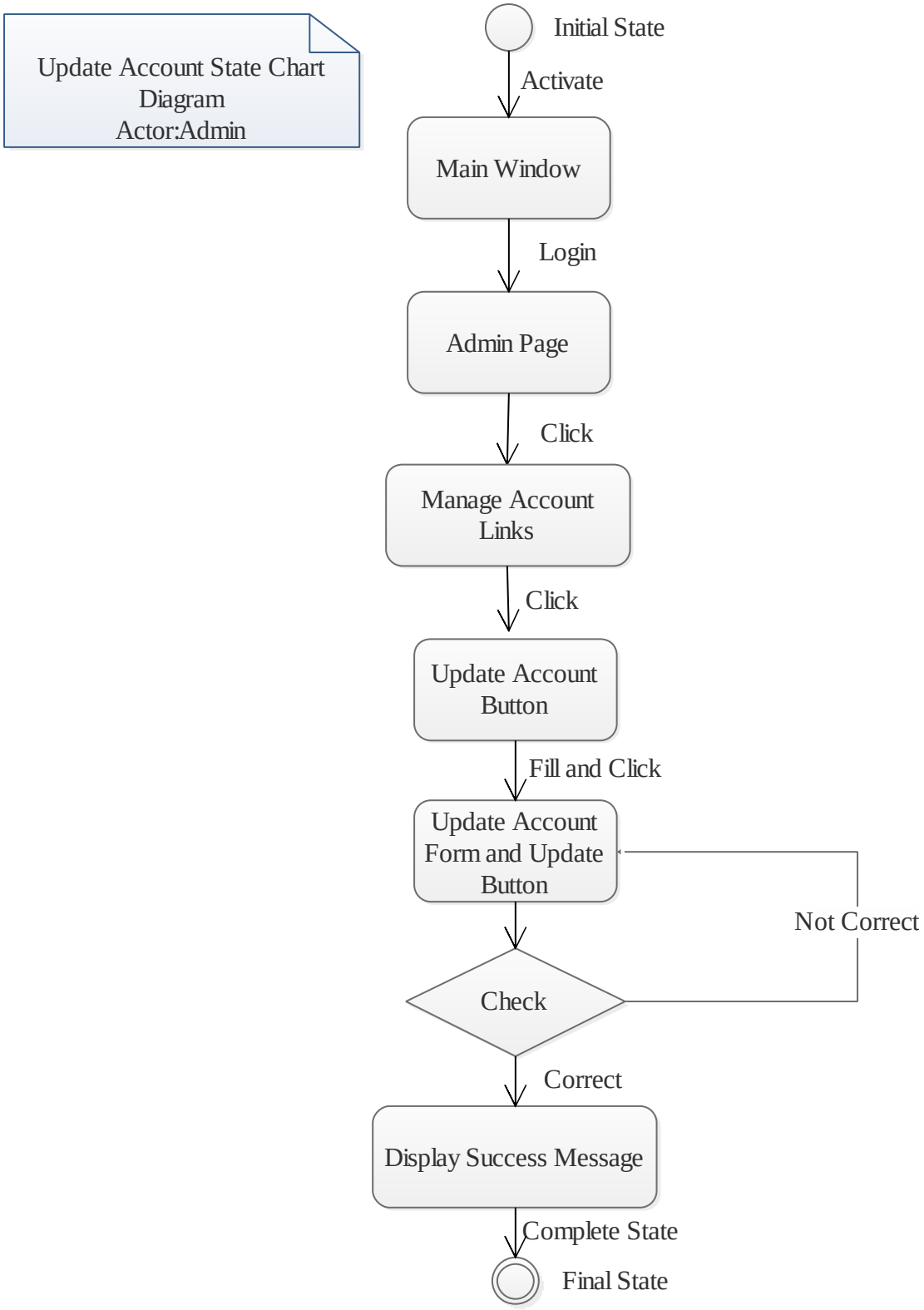


Figure 4.30 State Chart Diagram for Update Account

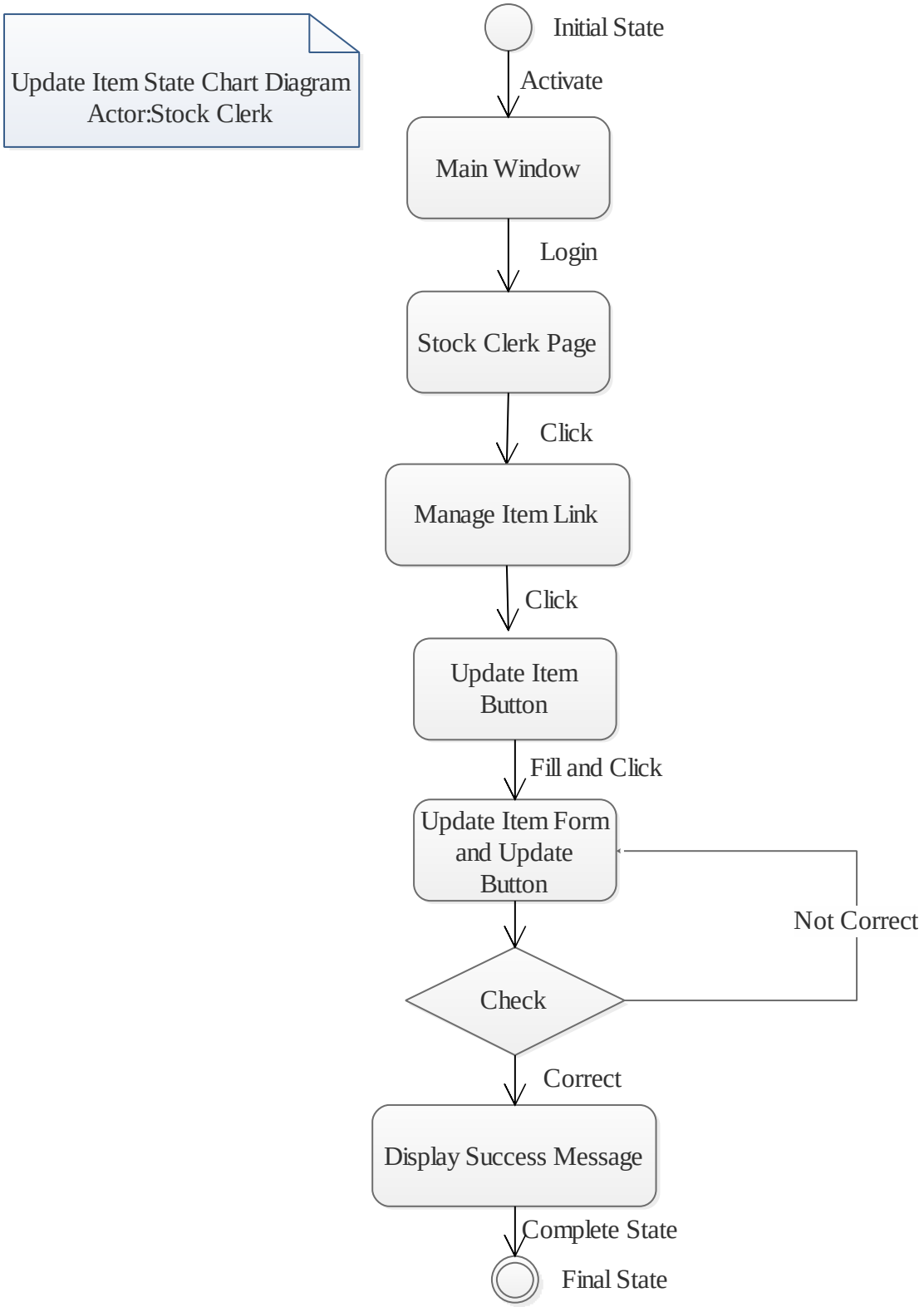


Figure 4.31 State Chart Diagram for Update Item

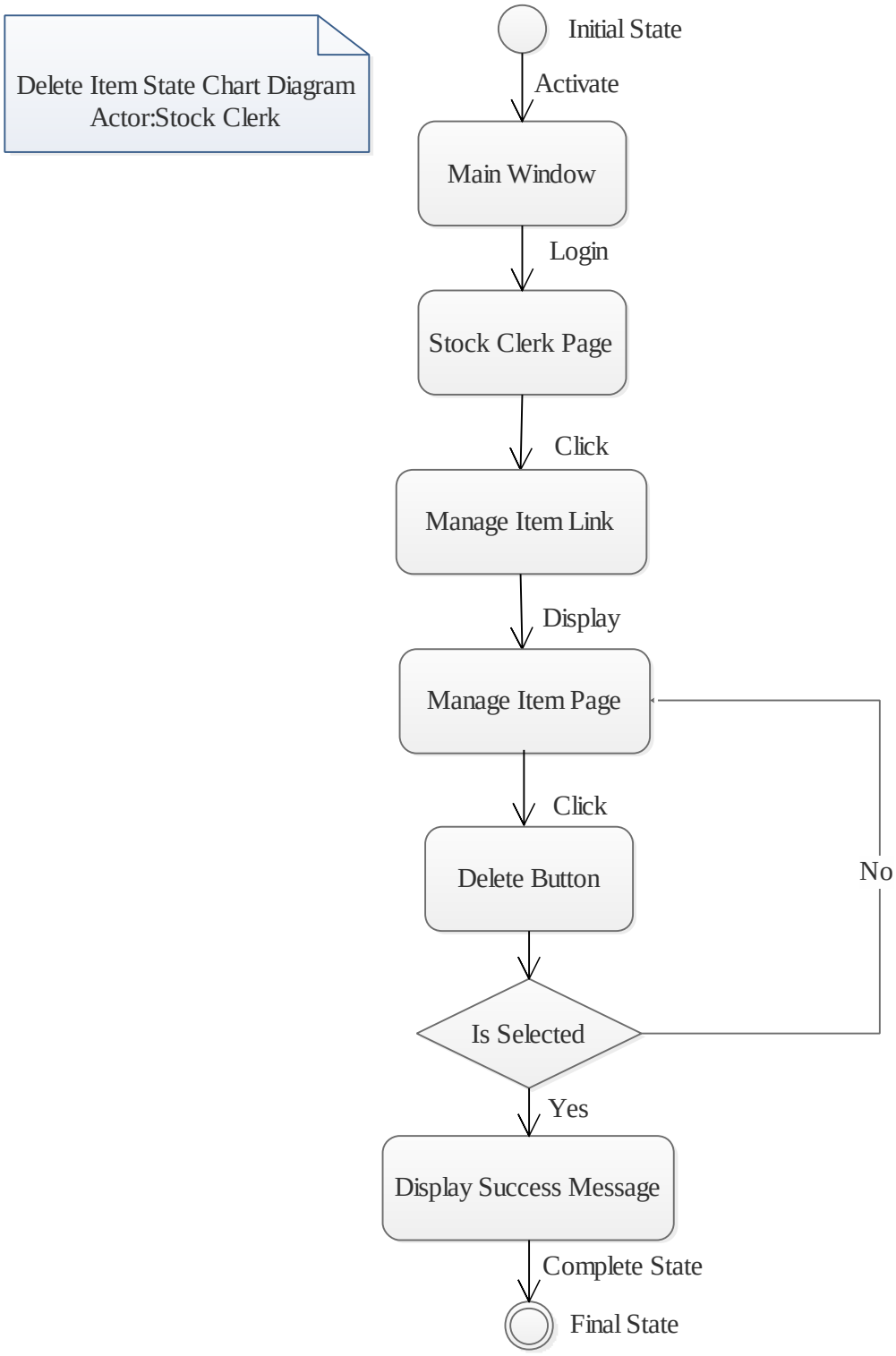


Figure 4.32 State Chart Diagram for Delete Item

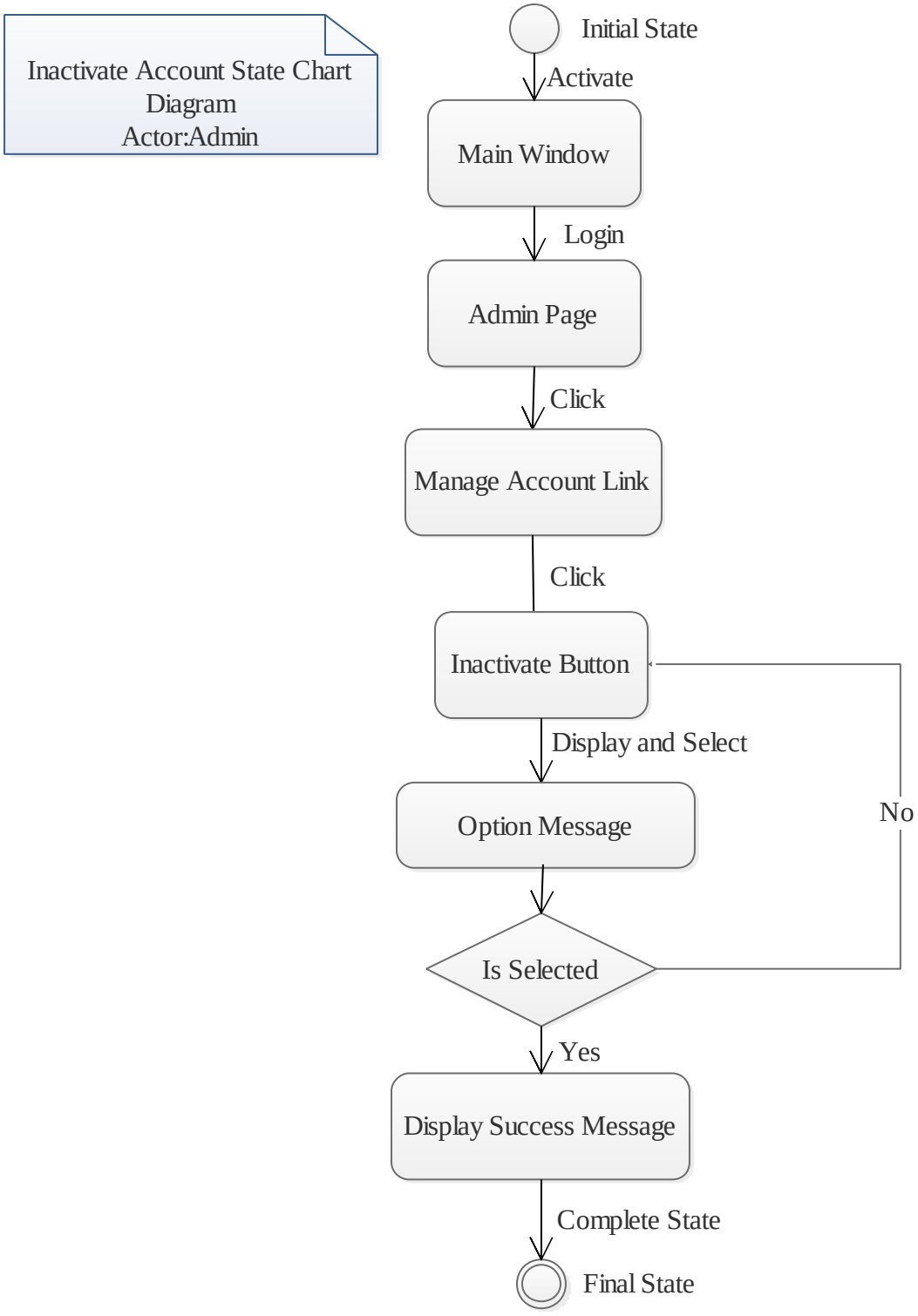


Figure 4.33 State Chart Diagram for Inactivate Account

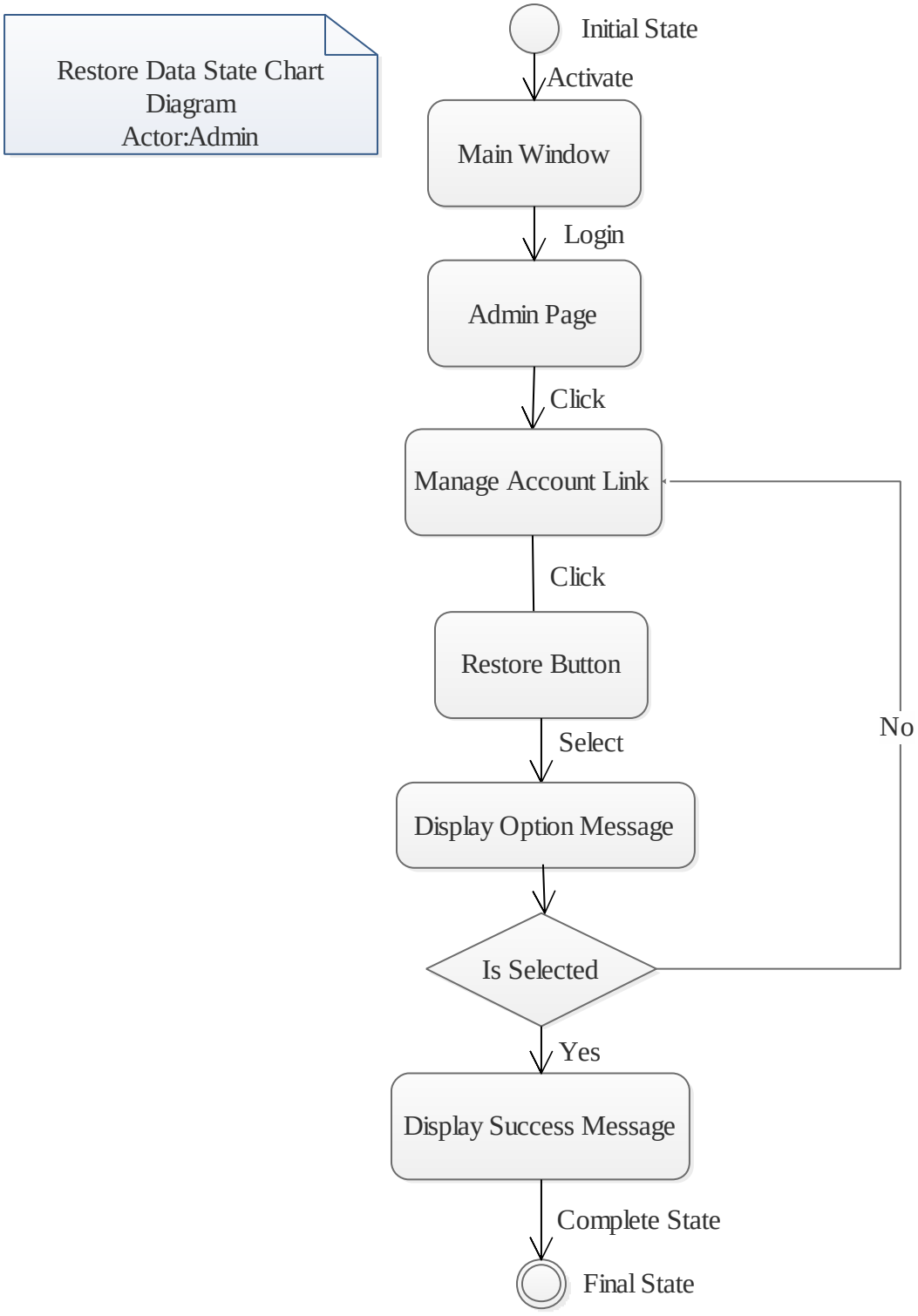


Figure 4.34 State Chart Diagram for Restore Data

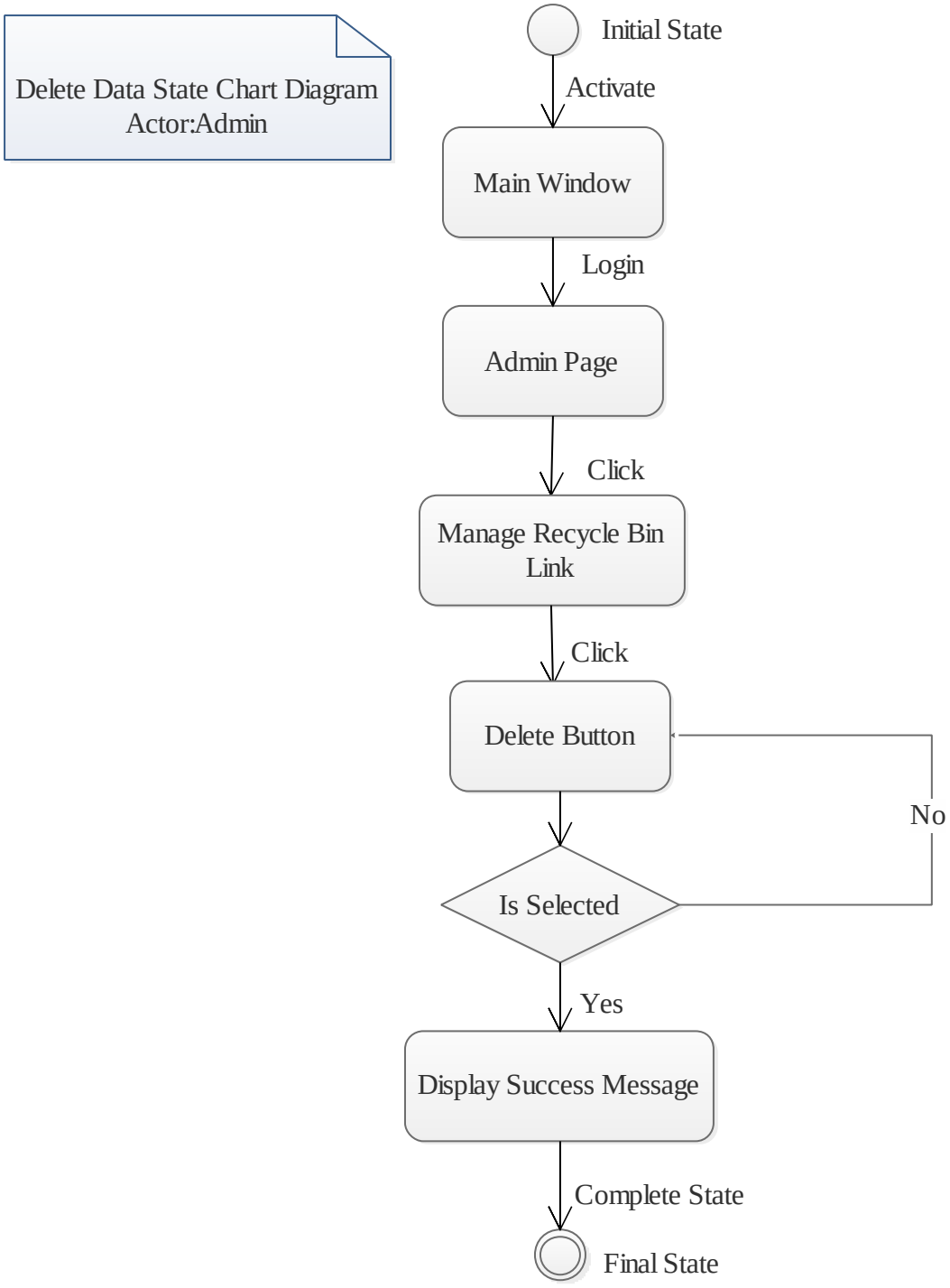


Figure 4.35 State Chart Diagram for Delete Data

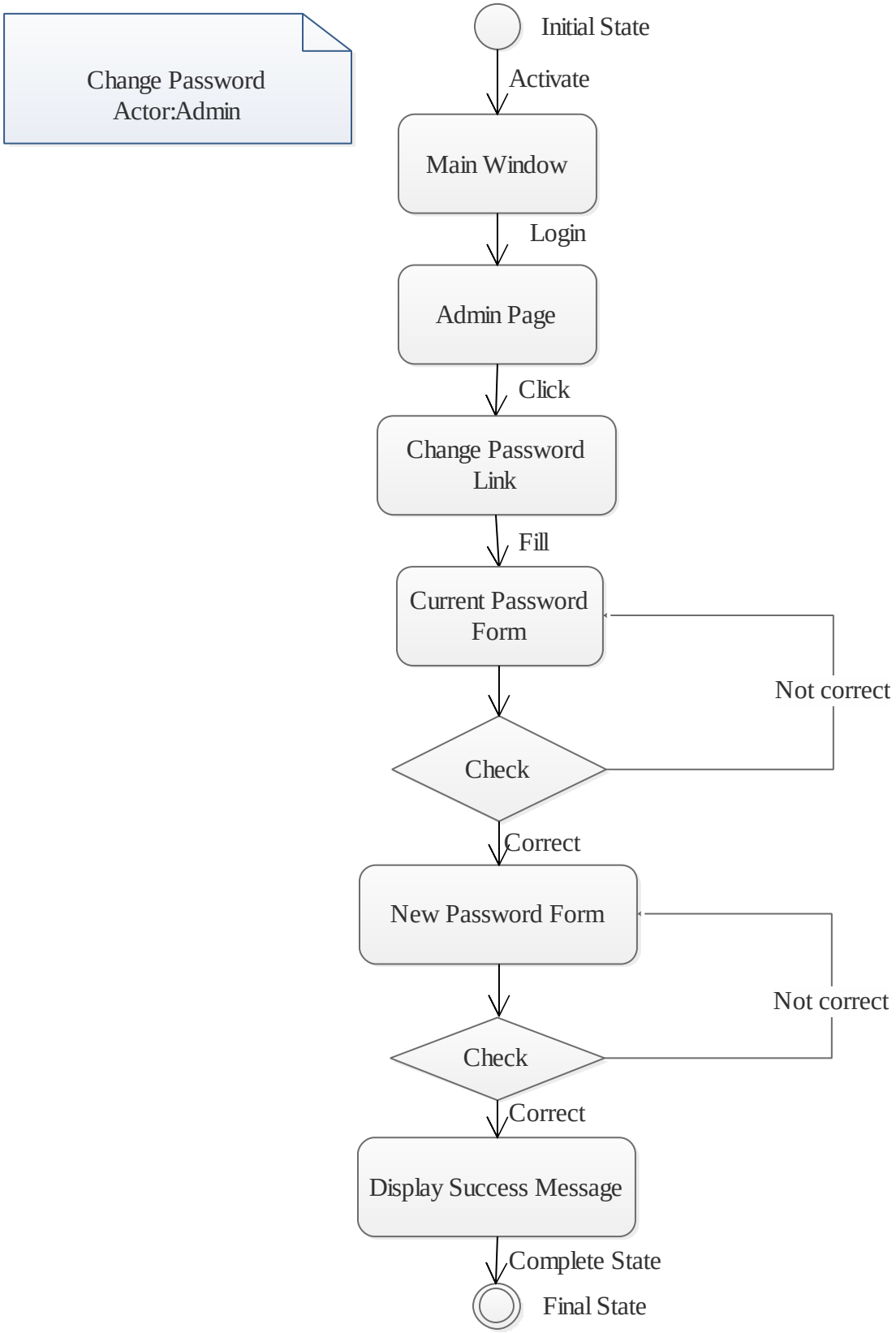


Figure 4.36 State Chart Diagram for Change Password

CHAPTER FIVE

SYSTEM DESIGN

This chapter will cover proposed software architecture subsystem decomposition, system class diagram, collaboration, persistent data management, component diagram, deployment diagram, graphical user inter face design of the system.

5.1 Design Goals

The goal of system design according to proposed system is to increase efficiency, security and accessibility of the system. Design goals describe the qualities of the system that developers should optimize. Such goals are normally derived from the non-functional requirements of the system.

5.1.1 Performance

The part of the system to be uses for the inventory management system for WKU should have a fast response time (real time) with maximum throughput. The system should be able to serve a number of users which are expected to access it concurrently furthermore, the system should not be taking up too much space in memory. The inventory management system for WKU has chosen fast response time over throughput and hence the system should try to be more interactive. In the case of the time tabling subsystem, the system should be more reliable in order to satisfy the constraints than fast response time.

5.1.2 Dependability

The system we developed have ability to avoid service failures in the presence of mistakes. The system should be robust and fault tolerant. Furthermore, high emphasis should have given with regard to security, as there are subsystems to be access through web.

5.1.3 Maintenance

The system should be easily extensible to add new functionalities at a later stage. It should also be easily modifiable to make changes to the features and functionalities. The system should be maintainable. It facilitates the correction of errors and deficiencies and it can expanded or upgraded to satisfy new changes in requirement.

5.1.4 End user

Usability: Usability is the extent to which specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use can use a product. From the end users' perspective, the system should be designed in such a way that it is easy to learn and use, efficient and having few errors if any.

5.2 Current System Architecture

The existing system of the inventory management system for WKU is manual system and hence there is no Existing software architecture that will be considered. As a result, we only describe the software architecture of the newly proposed system.

5.3 Proposed System Architecture

The System Architecture describes how the different components and nodes are arranged within the system. When closely looking at how the system works.

We use 3-tier for our project because 3- tier architecture provides scalability, performance, availability for the project.

User (Presentation) Tier: End-users operate on this tier and they know nothing about any existence of the database beyond this layer.

Application (Middle) Tier: At this tier reside the application server and the programs that access the database. For a user, this application tier presents an abstracted view of the database. End-users are unaware of any existence of the database beyond the application. At the other end, the database tier is not aware of any other user beyond the application tier. Hence, the application layer sits in the middle and acts as a mediator between the end-user and the database.

Database (Data) Tier: At this tier, the database resides along with its query processing languages. We also have the relations that define the data and their constraints at this level.

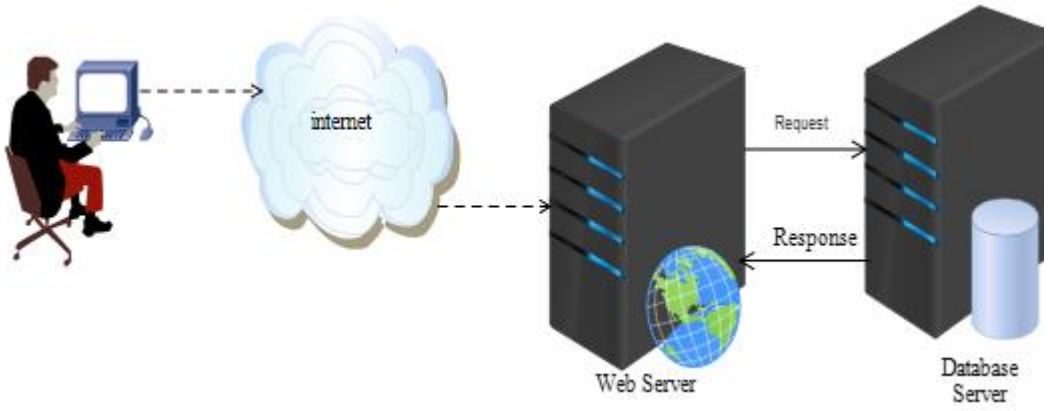


Figure 5.37 proposed system architecture

5.3.1 Subsystem Decomposition and Description

In order to reduce the complexity of the application domain, we identified smaller parts called “classes” and organized them into packages. Similarly, to reduce the complexity of the solution domain, we decompose a system into similar parts, called “subsystem”, which are made of number of solution domain classes.

Manage Account subsystem: this subsystem managing of information regard to account and perform.

- Create account
- Update account
- Activate account
- Deactivate account

Item information management subsystem: this subsystem handles records of material and it includes operations of:

- Register new material
- Update material information

Distribution of Item management subsystem: this subsystem to manage or handles records of material in the hands of user and it includes operations of:

- Transferred item
- Taken item
- Returned item

Report management sub system: This subsystem allows for managing information and performs this operation.

- Generate report
- View report

Comment subsystem: in this sub system manage information of comment and perform.

- Give comment
- View comment

Database Connection Subsystem: this subsystem used for established connection between business class and database management system.

Request subsystem: in this subsystem managing of information regard to request and perform.

- Send request
- View request
- Approve request
- Disapprove request

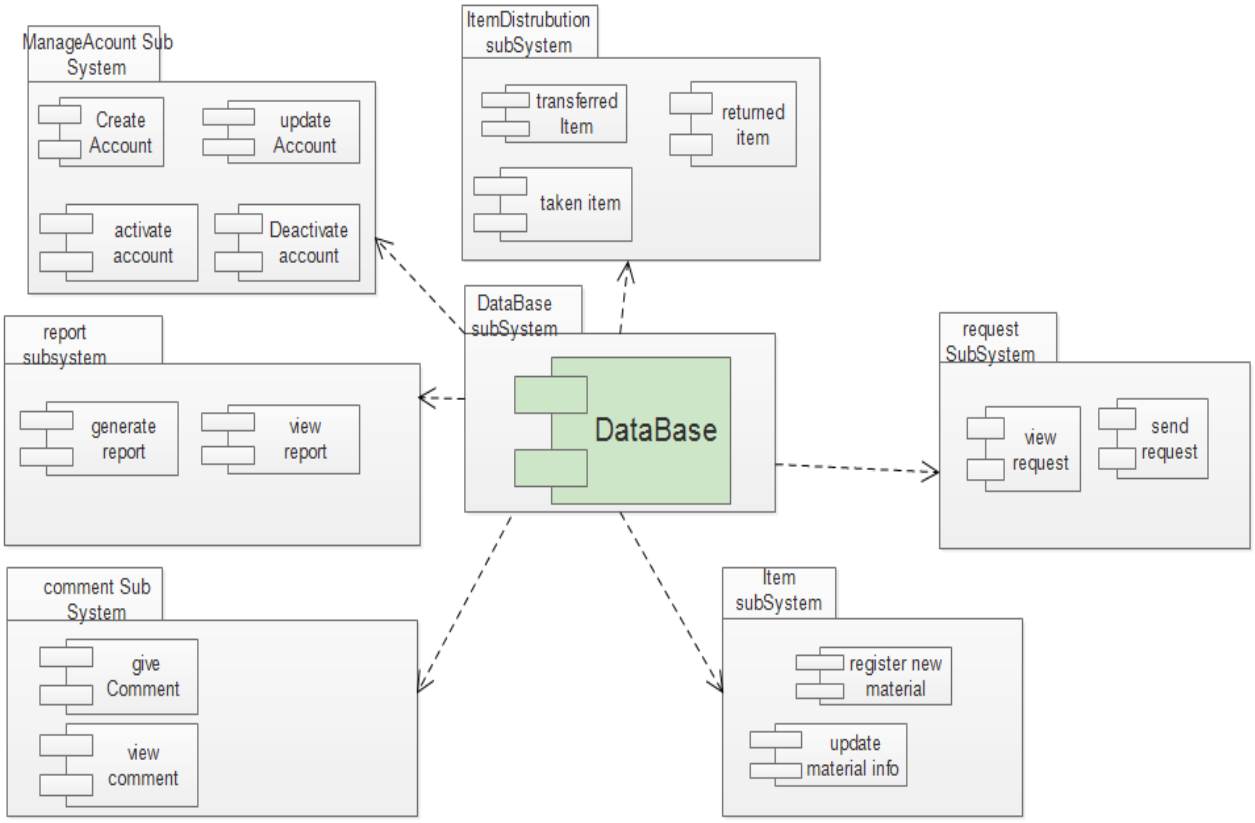


Figure 5. 38 subsystem diagram

5.3.2 Hardware/Software Mapping

Deployment diagram shows the hard ware of the system, and the software that is installed in the hard ware and also the middleware that shows the connected disparate machines one to another. It also shows how the software and the hard ware component work together.

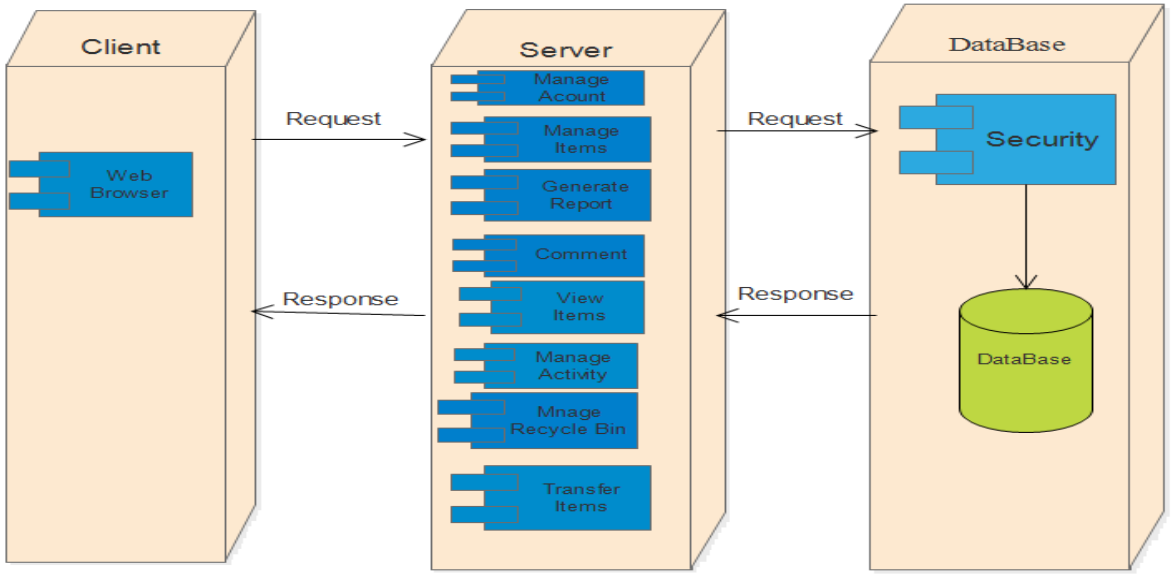


Figure 5.39 deployment Diagram

5.3.3 Detailed Class Diagram

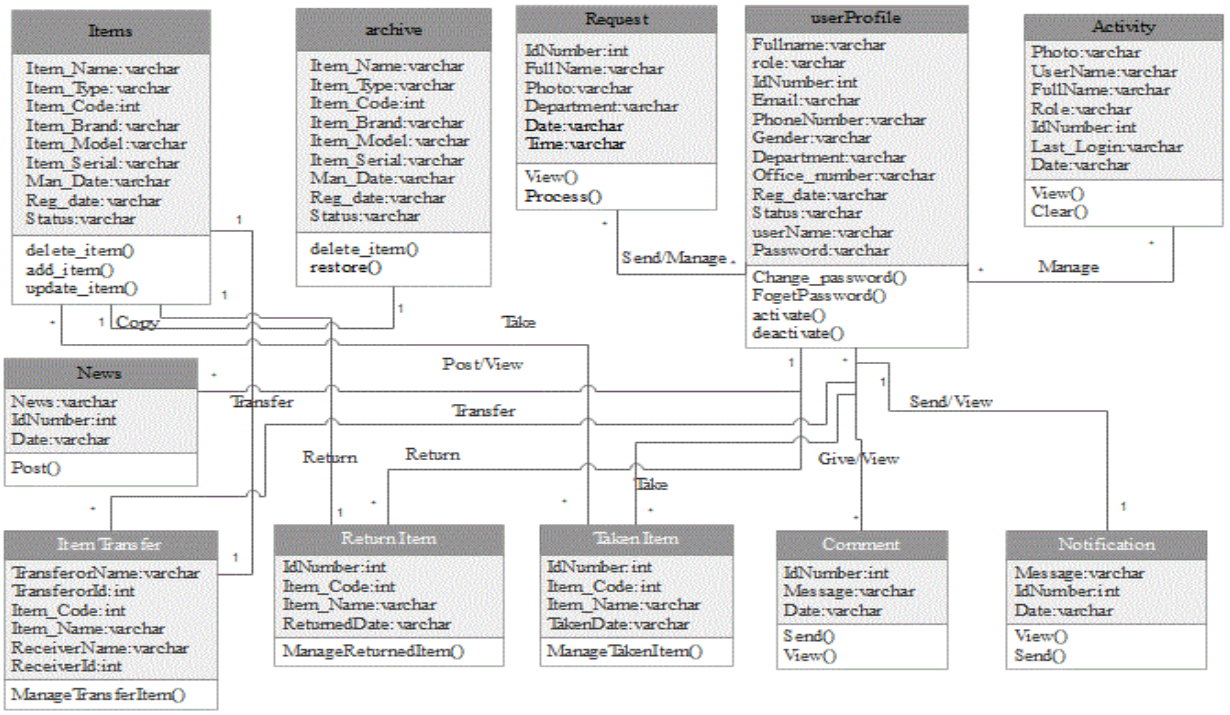
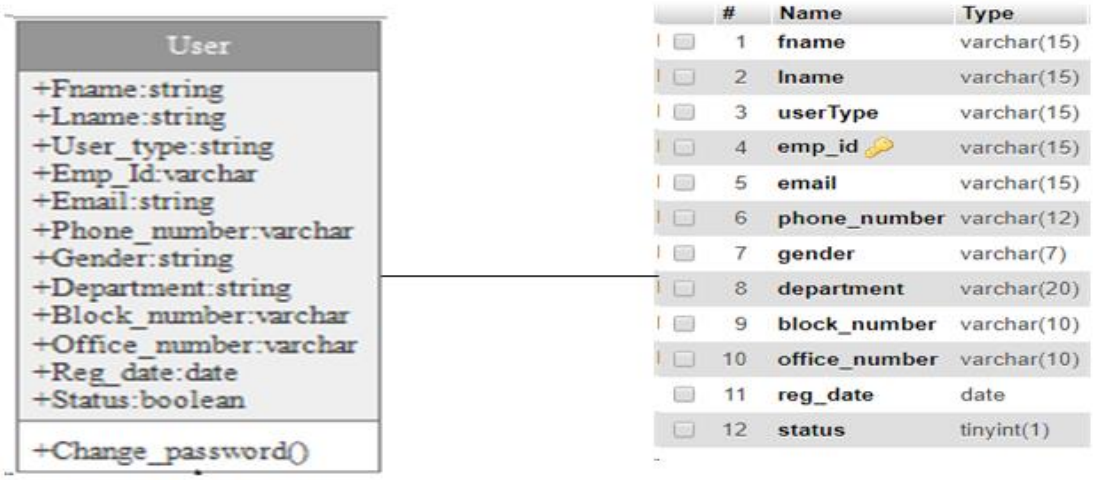
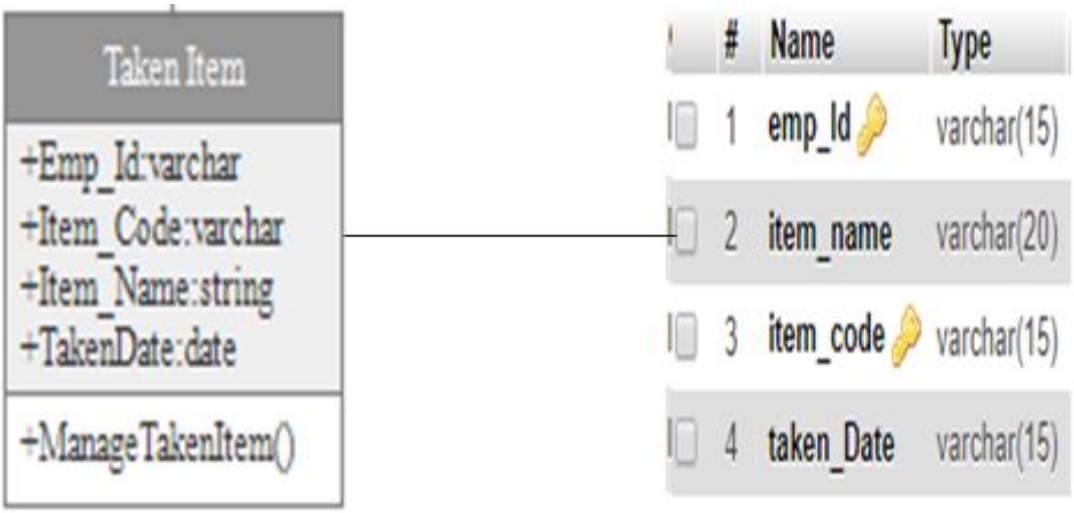


Figure 5.40 Detailed Class Diagram

5.3.4 Persistent Data Management

When user interact with the system persistent data management is needed .during this activity persistent object is identified, storage management strategy is selected, and description of database encapsulation is described, in order to store information persistently we map objects into tables and the attributes into fields to the specific table based on the objects found on the system. This part is to describe and show the necessary relationships among the tables, which are selected to store the data persistently in the system.





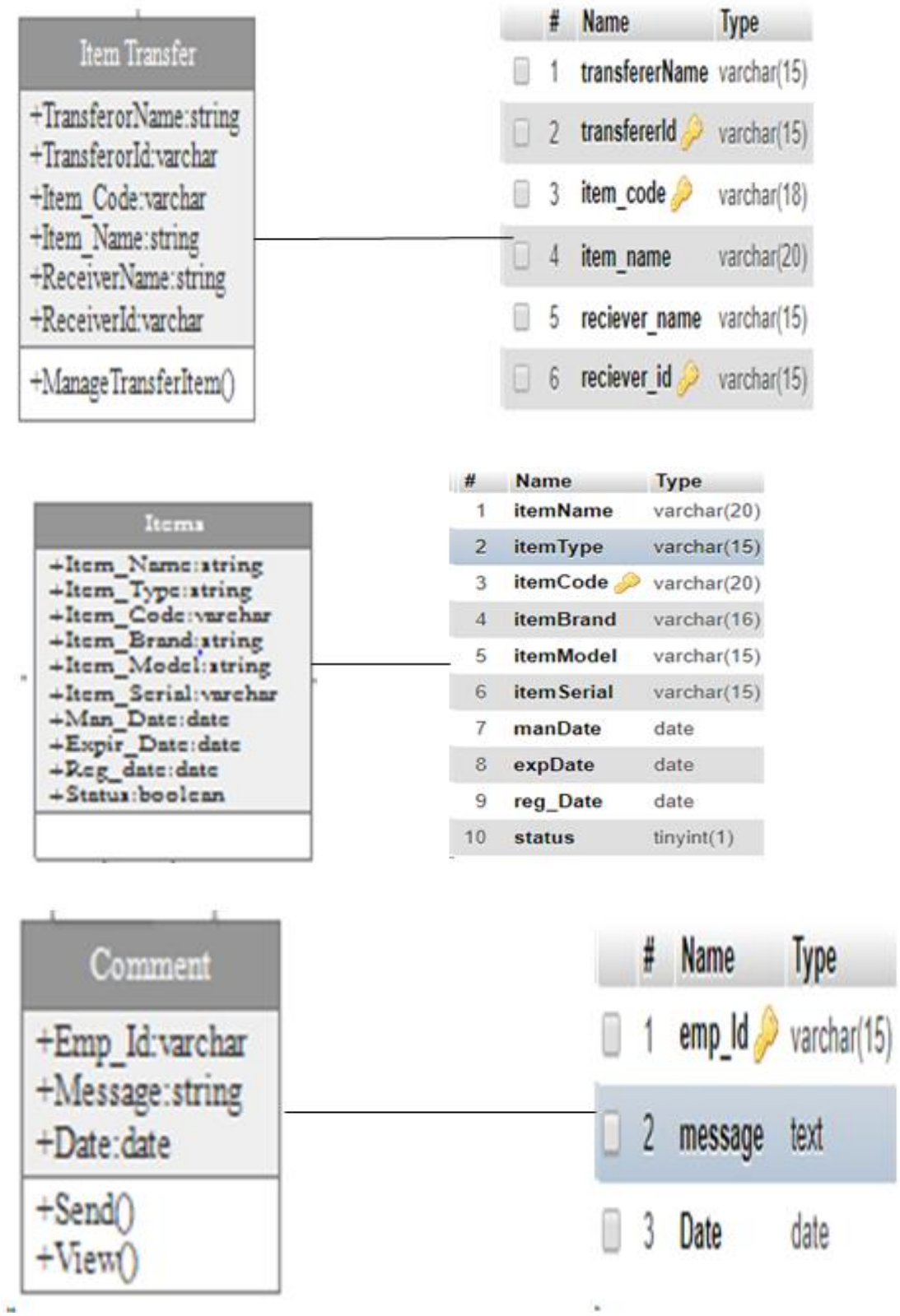


Figure 5.41 persistent data management Diagrams

5.3.5 Access Control and Security

Access control and security describes the user model of the system in terms of access matrix. Upon start up, the system will display the user a login screen. Then the user will enter username and password. After the user entered the username and password, the system verifies whether the username and password entered are valid or not. If it is valid, the system will allow access to the application based on the privilege to which the user belongs. Accordingly to the following access control list is given for the system.

	Admin	Manager	Clerk	Staff member
Login	Yes	Yes	Yes	Yes
Manage items	No	No	Yes	No
Transfer items	No	No	Yes	No
Receive response	No	Yes	Yes	Yes
View items	No	Yes	Yes	Yes
View reports	No	Yes	No	No
Return items	No	No	Yes	No
Manage activity	Yes	No	No	No
Change password	Yes	Yes	Yes	Yes
View comment	No	Yes	No	No
Manage recycle bin	Yes	No	No	No

Manage account	Yes	No	No	No
Give comment	No	No	No	Yes
Disprove request	No	Yes	No	Yes
Approve request	No	Yes	No	Yes

Table 5.24 Access Control and Security

5.4 Packages

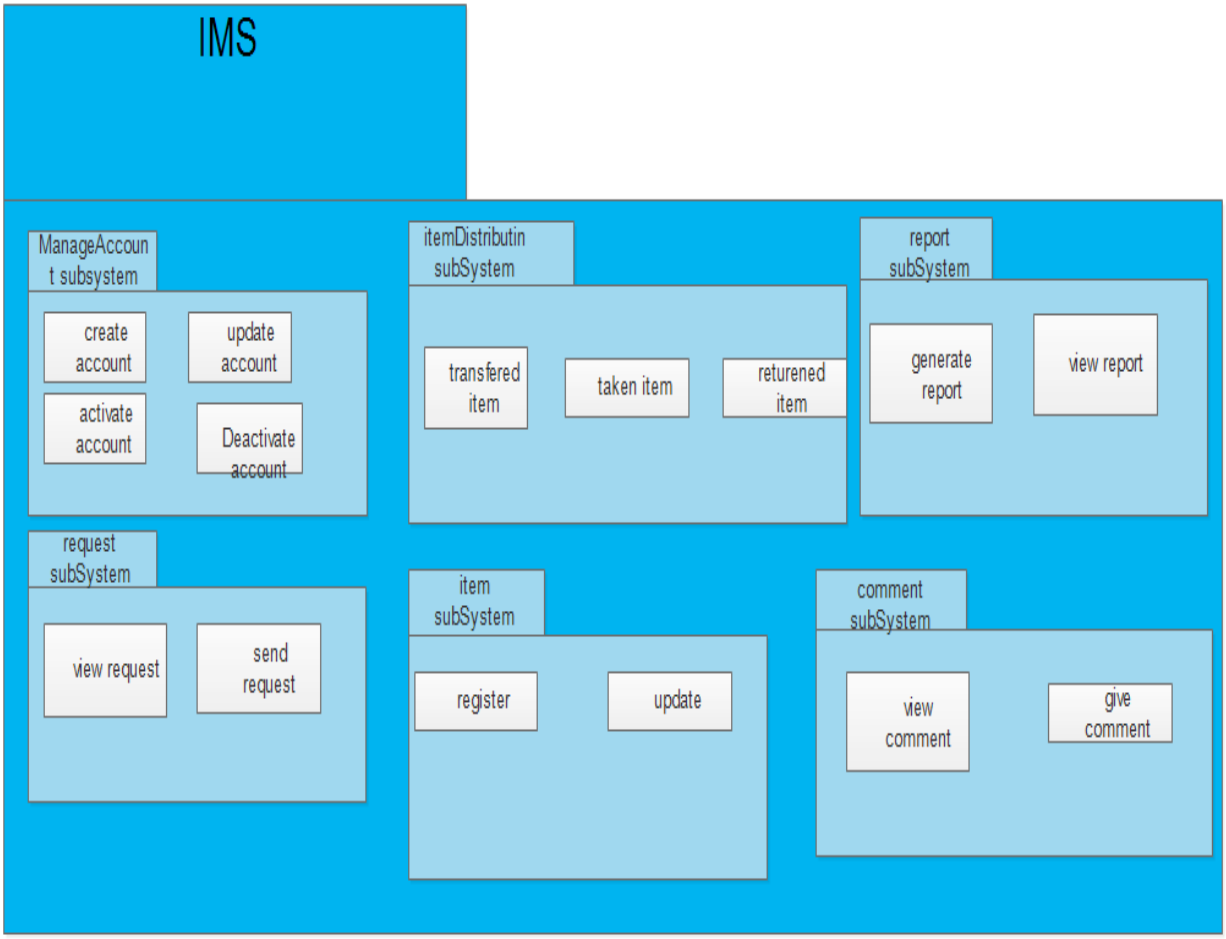


Figure5. 42 package Diagram

5.5 Algorithm Design

It defines the algorithm required for each element of the architectural design to accomplish its tasks.

Pseudo code for **login**

Method name: Check Password ()

GET Username

GET Password

Select username, password, role, from user Account table when the query is equivalent satisfies the username is equal to the entered username and the password is equal to the entered password.

IF (Username == Entered Username && Password == Entered Password) THEN

{

Put the entered username and password into the SESSION variable.

Login Successful

}//end of if

ELSE

{

Login failed display error message.

}//end of else

5.6 User Interface Design

User interfaces should be designed to match the skills, experience and expectations of its anticipated users. System users often judge a system by its interface rather than its functionality. A poorly designed interface can cause a user to make catastrophic errors. Poor user interface design is the reason why so many software systems are never used

Figure5. 43 graphical user interface for user Login

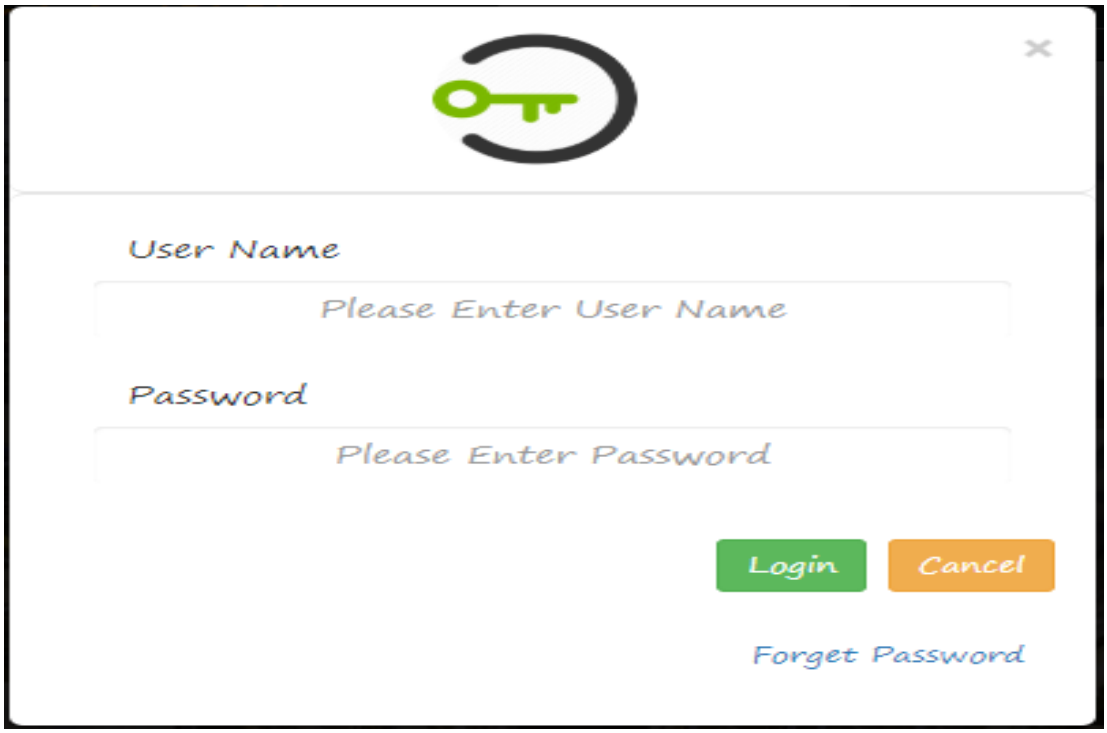


Figure 5.44 graphical user interface for add Item

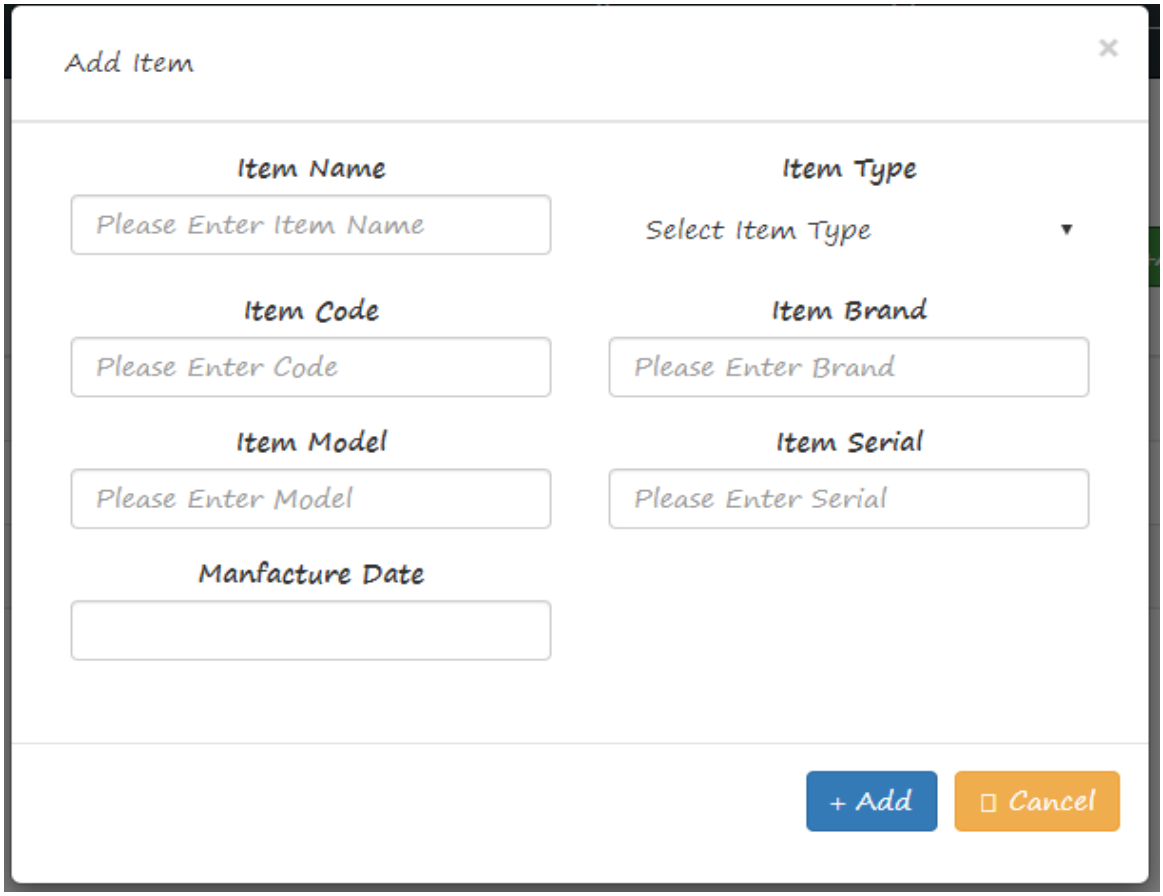


Figure 5.45 graphical user interface for Home Page

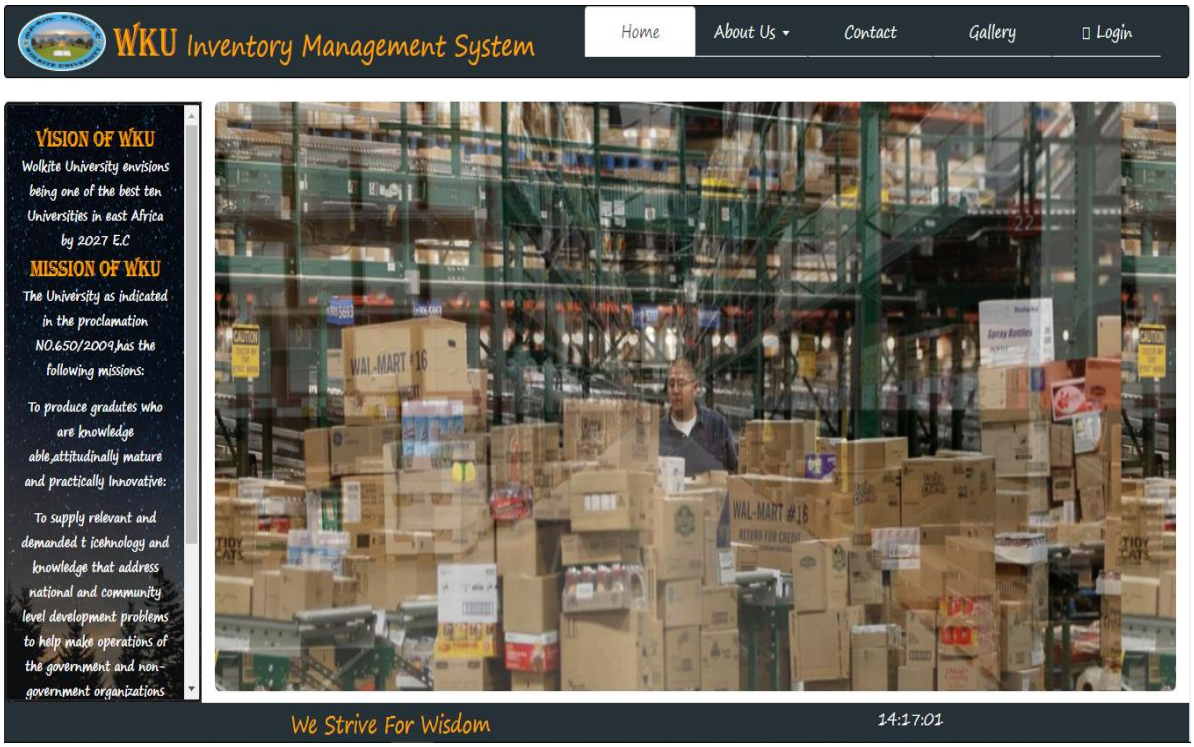


Figure 5.46 graphical user interface for Create Account

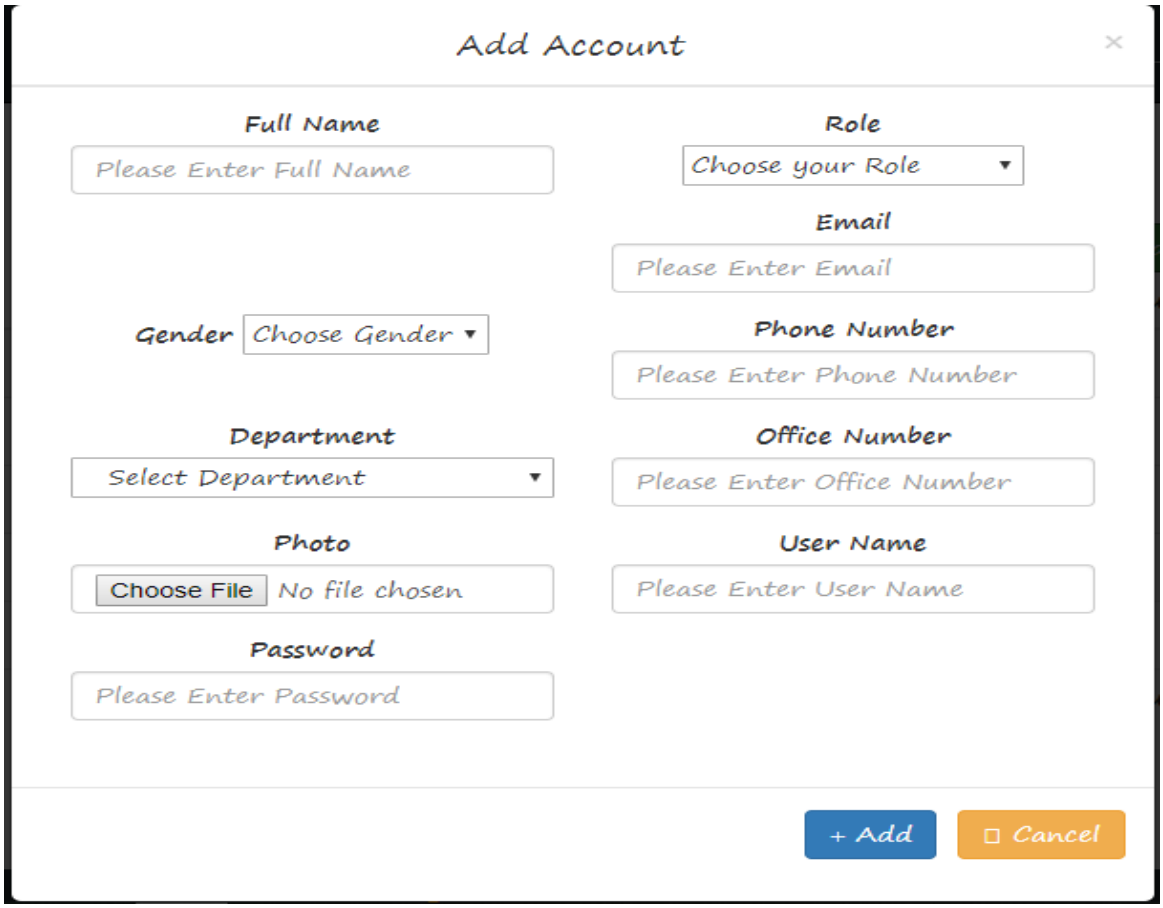
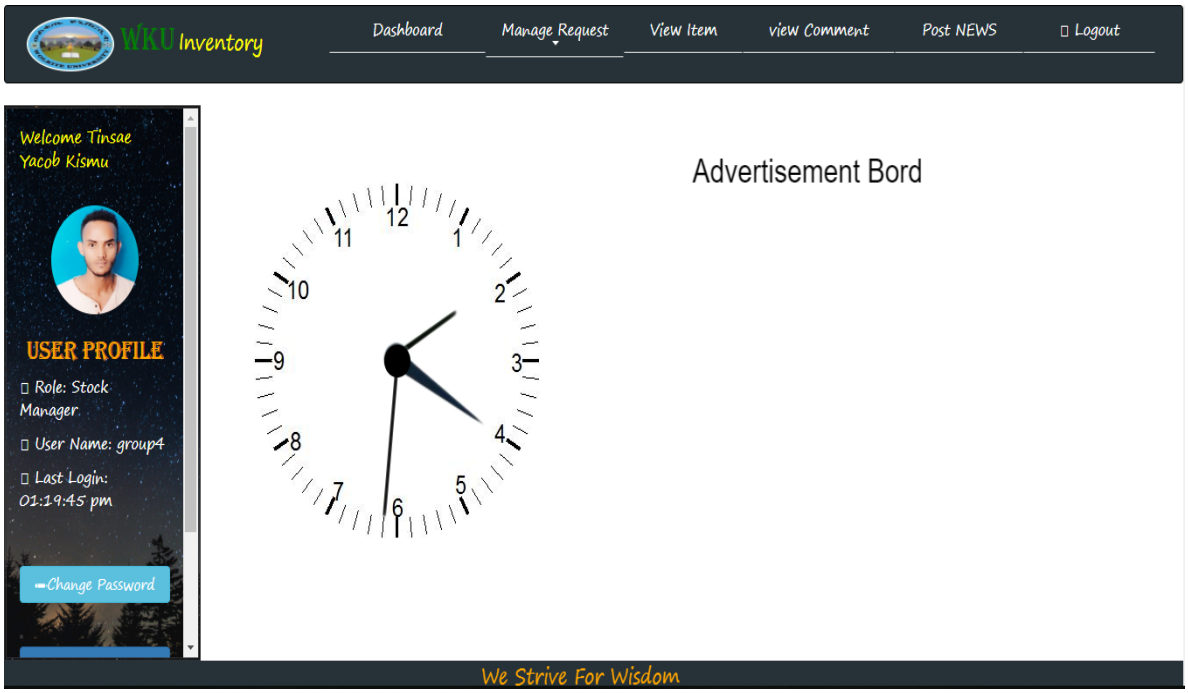


Figure 5.47 graphical user interface for User Page



CHAPTER SIX

6. IMPLEMENTATION AND TESTING

6.1 Introduction

Implementation refers to the coding of the all documents gathered starting from requirement analysis to Design phase. All documents, business logic, information gathered are designed into the code so that the system will be implemented for the user to be used for the purpose it developed. The chapter here describes about the final testing system, hardware and software acquisitions, and installation process. The functional system from the design phase above is the key input to the implementation phase. The deliverable of the implementation phase (the project) is the operational system that will enter the operation and support stage of the system's life cycle. Here is the sample code for each module.

6.2 Implementation of the Database

Our project inventory management system implemented with MYSQL database to manage our project which assists to insert update delete and view data which is stored in the database.

Our project implemented with MYSQL database because it can be deployed and run on any operating system like window, Linux and others. MYSQL database is easy, fast and can be used for any type of data whether relational or simple, large or small data.

Our project inventory management system contain one database and eleven table each table contain its primary key and some of the table contain foreign key that means some of the table related each other's.

6.3 Implementation of the Class Diagram

We implement database tables of our system based on the class diagram that we have design and use mysql for the database implementation. The system which we implemented involves in a central database that accessing and stores run on a server or host computer. The database application on the client side handles the screen input output processing and the back end on the server side handles data processing.

6.4 Configuration of the Application Server

Our project inventory management system configured by Xampp server because Xampp is simple and lightweight Apache distribution it is extremely easy to create a local web server for testing and deployment purposes. Everything you needed is to set up a web server-

server application (Apache), database (Maria DB) and scripting language (PHP). XAMPP works equally well on Linux, Mac and Windows. It is suitable and have the function we listed above we use Xampp application server.

6.5 Configuration of Application Security

We use JQUERY for implement validation our system validate all the input by returning error message and suggesting to try again when invalid input occur.

We use PHP md5 for implement encryption our system encrypt username and password when the system administrator create a user account, when the user change their password the system encrypt the password or when the user forget their password the system encrypt the password .

We use PHPmail for implement forget password by using email our system support forget password that means user can forget password using their own email and our system send the link to users of the system their own email.

Our system inventory management has five role and our system define this roles clearly and specify the user access control that means the user login to their specified page.

Our system implement session for prevent unwanted access of the system.

6.6 Implementation of User Interface

Our system is user centered because we implement the user interface by considering the user of WKU inventory office and WKU staff members. Our system user interface developed by using English language considering WKU staff members and WKU inventory office. The user of WKU inventory management system done their task using our system freely without any stress because our system user interface is user interactive. And the system is consistent which gives users a more positive experience, enables users to carry out tasks more quickly and efficiently, improves usability and learnability of the system.

6.7 Testing

In this chapter we discuss about introduction for testing, purpose of testing, features what we are tested, what we are not tested, what we use testing tools and environments to test the system and discus about testing procedures.

This project's goal is providing an automated system for Wolkite city accident information management system. Once the system is working successful, the finding of Organization

that gives accident information performance will increase at certain level than the former stair. However, once the system is operational, this initial selection of products will be reviewed to determine if they will ultimately provide the kind of scalability needed for the foreseeable future. Specifically, testing will now consist of the following phases (listed chronologically): · Unit and integration level – adherence to coding standards and successful communication between units and integration level · System level – compatibility, performance, usability, functionality etc. · System Quality Assurance & Acceptance (acceptance into Production).

6.7.1 Testing Tools and Environment

Now days we can get lots of Software Testing Tools in the market. Selection of tools is totally based on the project requirements & commercial (Proprietary/Commercial tools) or free tools (Open Source Tools) you are interested. Off Course, free Testing Tools may have some limitation in the features list of the product, so it's totally based on what are you looking for & is that your requirement fulfill in free version or go for paid Software Testing Tools. The tools are divided into different categories as follows:

- ✓ Test Management tools
- ✓ Functional Testing Tools
- ✓ Load Testing Tools

6.7.2 Unit Testing

- ✓ **Unit testing**: - Unit test is a way of testing each of the system functionality independently. Accordingly, the team has tested each one of the three major activities and the rest accompanying activities independently using different user input, different login mechanisms and any technique of fault finding so that an incorrect functioning of the activities was corrected at the right time.

6.7.3 System Testing

- ✓ **System testing**:-It is the final step of testing. In this system tested the entire system as a whole with all forms, code, modules. In this we tested all the functionalities in the System. All errors in the forms, functions, modules have been tested. Finally, System testing ensures that the entire integrated software system meets the desired requirements. It tests a configuration to ensure known and predictable results.

6.7.4 Integration Testing

- ✓ **Integration testing:** -By combining each individual form and report with their concerned database as tested by giving general data. From this we can understand that how the system work using separate module. It occurs after individual units are tested. Integration testing takes as its input modules that have been unit tested, groups them in larger aggregates, applies tests defined in an integration test plan to those aggregates and delivers as its output the integrated system ready for system testing.

6.7.5 Acceptance Testing

- ✓ **Acceptance Testing**: - Commonly known as the beginning and the ending test, the completed system (or a major portion of it) is released to a selected group of users for testing in the real world. In this project virtual user has tested for the desired specifications

CHAPTER SEVEN

7. CONCLUSION AND RECOMMENDATION

7.1 Conclusion

Currently inventory Management System is manual based inventory management system the system that we have developed has two phases; the first phase deals with the analysis phase of the life cycle with the organization, and the next phase addresses the design phase. As the end of the first phase, we need to review what we have planned at the beginning. We began our work by identifying the significance of the new system for the store and the overall techniques to be used in the development process. This concerned defining the system development methodology, identifying process and resource, and setting the deliverable and scheduled for the project.

The business area Analysis helps the team to understand the major functional areas and processes of the proposed system. Through this business area, we identified the weakness and strength of the existing system by developing the proposed system.

After that, we discovered system requirements. Through this phase, we identify functional and non-functional requirements of the new system. Then we have undertaken a major phase in system development process: object oriented Analysis. Here, we tried to model the new system we proposed using UML diagrams: Use case, sequence, and activity and class diagrams. Also, we designed the new system user interface prototype.

As a result, we proposed the new system to solve the problem of existing system such as time management and security. And also we developed our capacity during working this new system so that the manual system changed to computerized system.

7.2 Recommendation

The system that we are trying to develop is not a working online payment system because of limited development capacity and time. Therefore, we recommend the following features need to be included in any further revision and extension attempt.

- The system should digital signature for the future
- The system should develop the online payment system for the future.

8. REFERENCES

1. http://www.inf.ed.ac.uk/teaching/courses/seoc/2011_2012/notes/SEOC13_notes.pdf
2. http://www.setha.info/docs/ict/course/0001/chap08.pdf
3. http://msdn.microsoft.com/en-us/library/dd409393.aspx
4. http://www.sourcecodester.com/php
5. http://www.w3schools.com/php/php_mysql_intro.asp
6. Ambler, Scott (2001) The *Object primer: The application Developers Guide to Object Oriented and the UML*.2nd rev. Ed England: The Cambridge University Press.
7. SYSTEM ANALYSIS AND DESIGN 8thedtionkennethekendall and julee.kendall
8. Ambler, Scott (2001) The Object primer: The application Developers Guide to Object Oriented and the UML.2nd rev. Ed England: The Cambridge University Press.
9. Massimofelici(2011) 3rd edtion object oriented ANALYSIS AND DESIGN OF SYSTEM

9. APPENDICES

A: Interview and Questionnaires

1. When the Wolkite University inventory management system is started?

2. What are the drawbacks of the existing systems form of wolkite university inventory management system?

3. How many users can have in the inventory management system?

4. How to transfer, take and return an item in the inventory?

5. How to generate report?

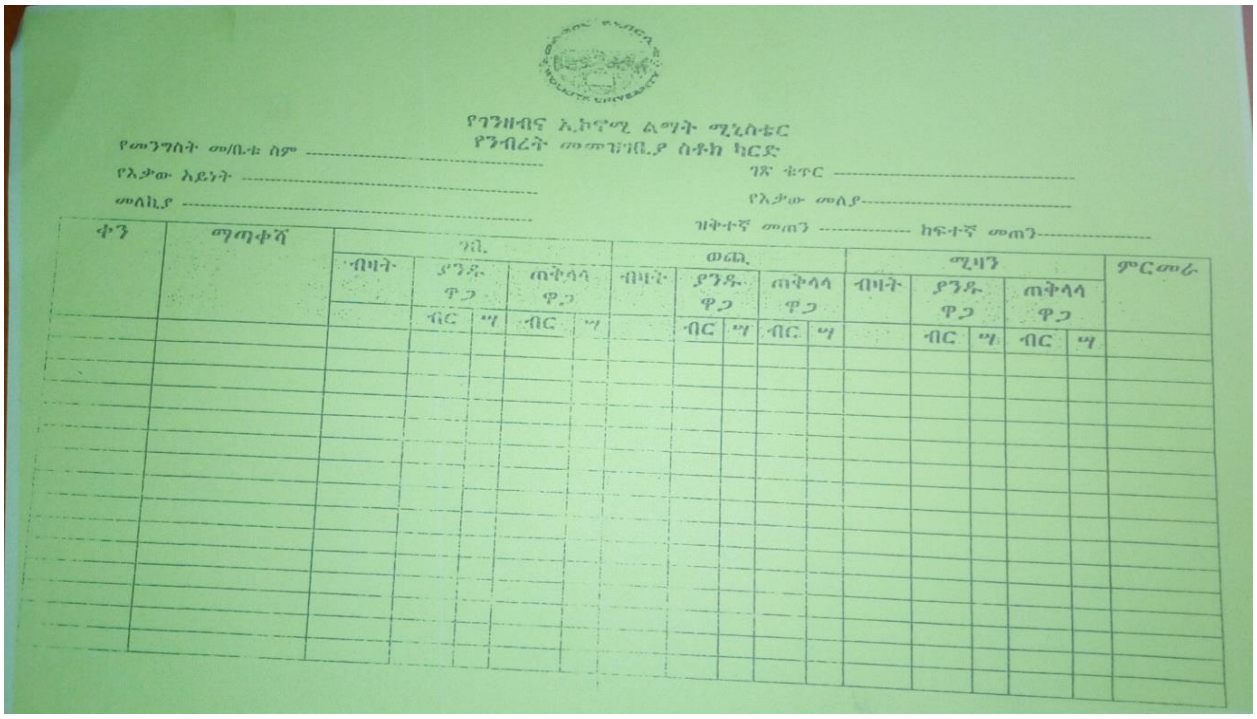
6. How to see the user's information?

7. How to check the user weather it is take or not?

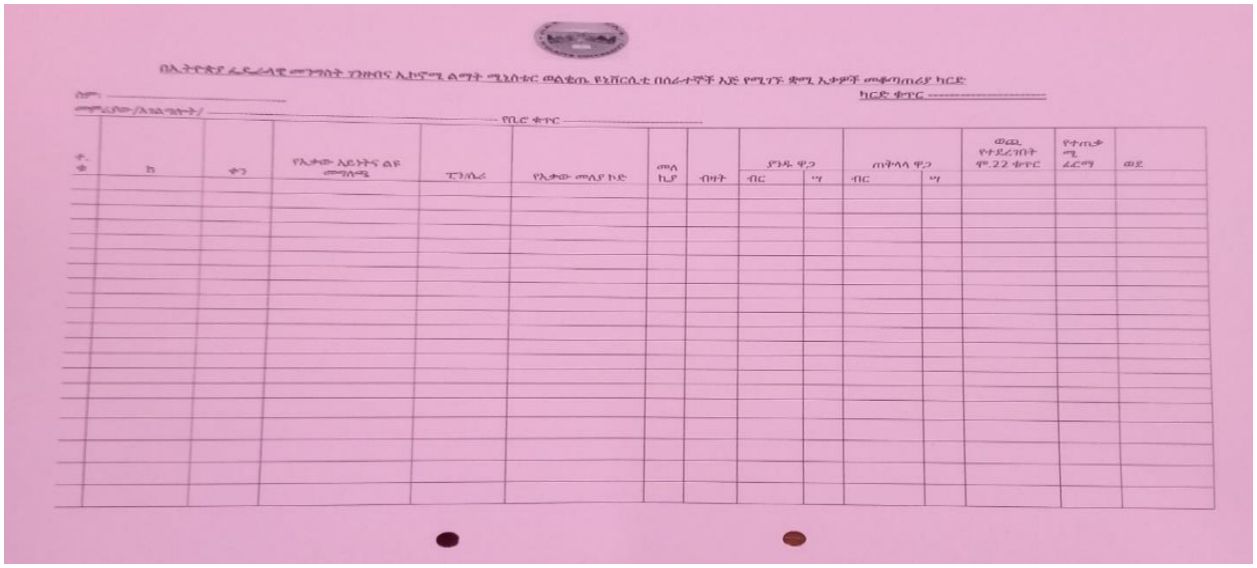
8. How to request users to use an item?

B: Existing System Forms and Reports

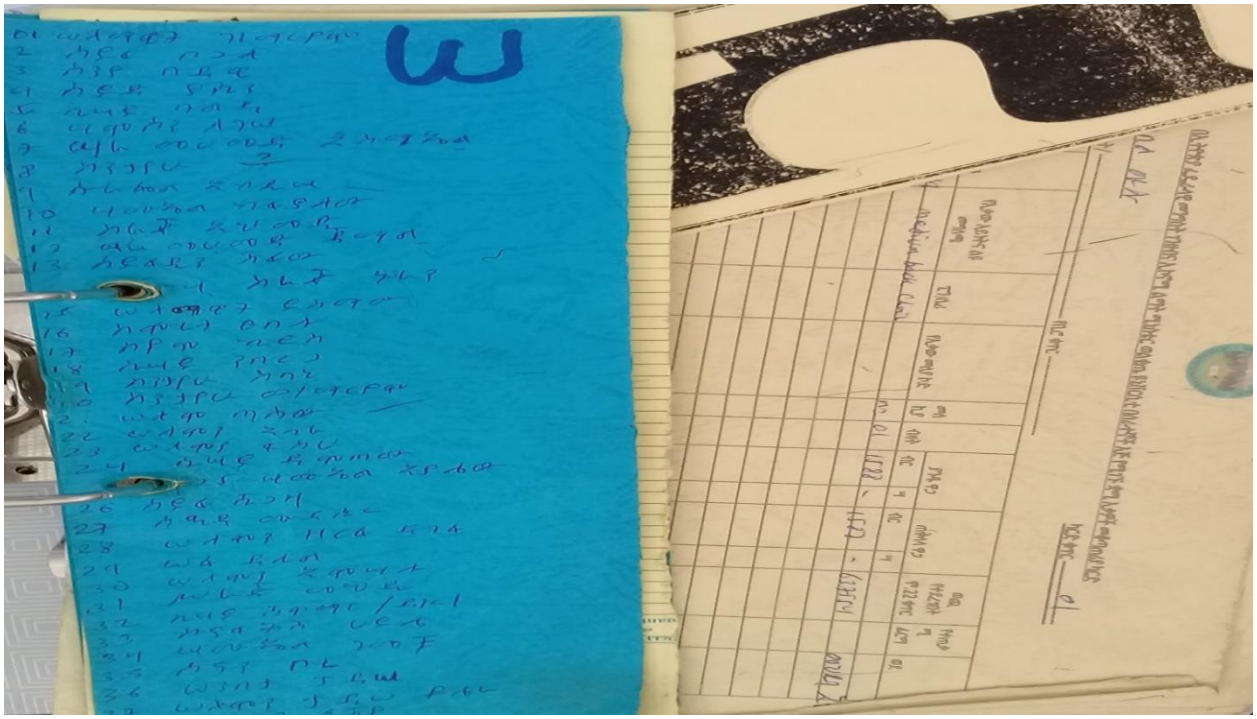
1. Registering new users and items


የገንዘብና ኢኮኖሚ ልማት ሚኒስቴር
የንብረት መመዝገቢያ ስቶክ ካርድ
የመንግስት መ/ቤቱ ስም
የእቃው አይነት
መለኪያ
ገጽ ቁጥር
የእቃው መለያ
ዝቅተኛ መጠን
ከፍተኛ መጠን
ቀን
ማጣቀሻ
ገቢ
ወጪ
ሚዛን
ብዛት
ያንዱ ዋጋ
ጠቅላላ ዋጋ
ብር
ሣ
ምርመራ

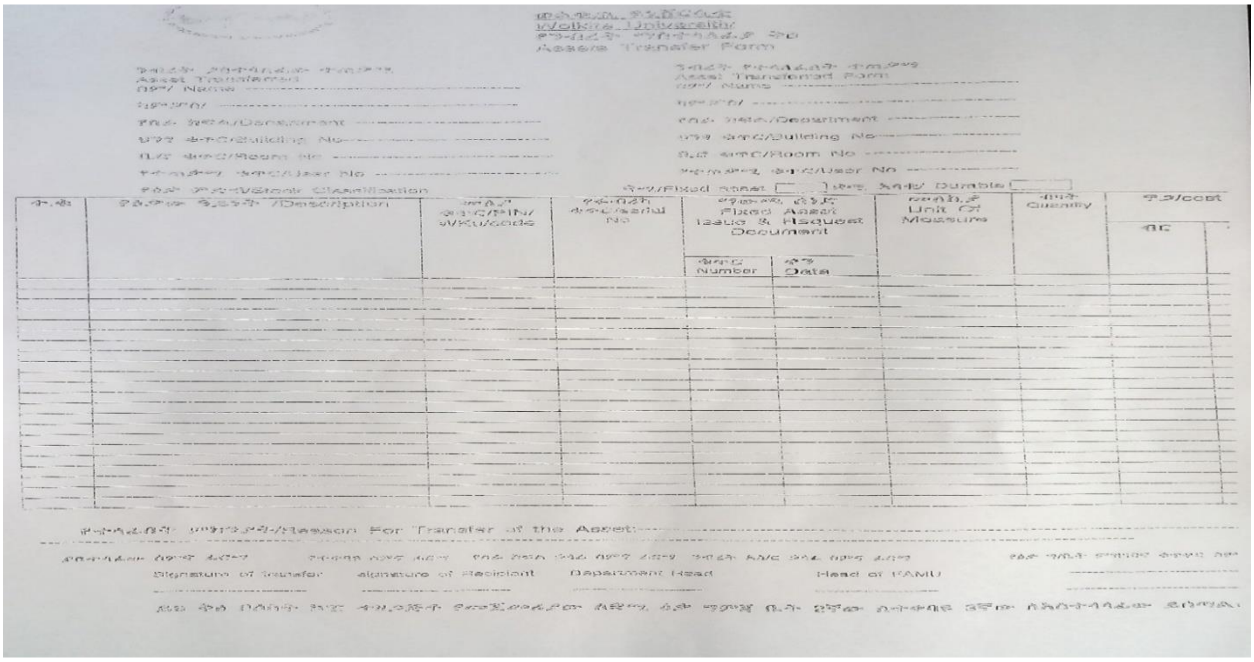
2. Profile registration form



3. Search users information form



4. Transfer items form



Wolkite University

Assets Transfer Form

Asset Transferred

Name --

Department --

Building No --

Room No --

User No --

Stock Classification

Asset Transferred Form

Name --

Department --

Building No --

Room No --

User No --

Fixed asset [ ] Durable [ ]

	/Description	PIN/ WKU/code	serial No	Fixed Asset Issue & Request Document		Unit Of Measure	Quantity	cost	
				Number	Date				

Reason For Transfer of the Asset:--

Signature of transfer ---------- signature of Recipient ---------- Department Head ---------- Head of FAMU ----------

C: Sample Source Code

- Sample code for login page

```
<div id="loginpage" class="modal fade">
  <div class="login modal-dialog">
   <div class="login1 modal-content">
    <form id="login_form" method="POST" action="loginprocess.php">
     <div class="modal-header img-rounded">
     <button type="button" class="close" data-dismiss="modal" aria-
hidden="true">&times;</button>
      <center>
        <div>
          <img src="pic/new.png" style="height: 75px; width: 75px;" class="im img-
circle">
        </div>
      </center>
     </div>
     <div class="modal-body col-lg-12 col-sm-12 col-md-12">
       <div class=" form-group col-lg-12 col-sm-12 col-md-12">
       <label class="btn">User Name</label><br>
       <input type="text" id="uname" name="uname" class="btn form-control"
placeholder="Please Enter User Name" required>
      </div>
      <div id="error_message" class="btn error-form btn-danger form-group col-lg-12
col-sm-12 col-md-12 img-rounded text-center">
      </div>
      <div class=" form-group col-lg-12 col-sm-12 col-md-12">
```

```
<label class="btn">Password</label><br>
<input type="password" id="password" name="password" class="btn form-control" placeholder="Please Enter Password" required>
</div>
<div id="error_message1" class="btn error-form btn-danger form-group col-lg-12 col-sm-12 col-md-12 img-rounded text-center">
</div>
</div>
<div class="img-rounded modal-footer text-center">
<input type="submit" name="login" id="login" class="btn btn-success glyphicon glyphicon-log-in btn-sm" value="Login">
<input type="button" class="btn btn-warning glyphicon glyphicon-cricle btn-sm" data-dismiss="modal" value="Cancel"><br><br><br>
<div>
<a class="btn btn-sm btn-right" href="forget.php">Forget Password</a>
</div>
</div>
</form>
</div>
</div>
</div>
<script src="js/login.js" type="text/javascript"></script>
```

- Sample code for index page

```
<?php
include "indexhead.php";
?>
```

```
<nav class="navbar1 navbar navbar-inverse img-rounded">
 <div class="container-fluid">
  <div class="navbar-header">
   <button type="button" class="navbar-toggle" data-toggle="collapse" data-target="#myNavbar">
    <span class="icon-bar"></span>
    <span class="icon-bar"></span>
    <span class="icon-bar"></span>
   </button>
   <span class="inv"><img class="imlog img-circle" src="pic/th.jpg"><span class="wku"> WKU</span></span><span class="inv2"> Inventory Management System </span>
  </div>
  <div class="collapse navbar-collapse" id="myNavbar">
   <ul class="nav nav-tabs nav-justified">
        <li></li>
          <li class="active"><a class="list" data-toggle="tab" href="#home">Home</a></li>
   <li class="dropdown"><a class="list dropdown-toggle" data-toggle="dropdown" href="#">About Us <span class="caret"></span></a>
          <ul class="dropdown-menu">
           <li><a class="list" data-toggle="tab" href="#menu2">WKU Inventory</a></li>
           <li><a class="list" data-toggle="tab" href="#menu1">Developer</a></li>
          </ul>
```

```
                    </li>
                    <li><a class="list" data-toggle="tab"
href="#menu2">Contact</a></li>
                    <li><a class="list" data-toggle="tab"
href="#gallery">Gallery</a></li>
                    <li><a class="list" href="#loginpage" data-toggle="modal"><span
class="glyphicon glyphicon-log-in"></span> Login</a></li>
                </ul>
              </div>
            </div>
          </nav>
  <div class="co col-sm-12 col-md-12 col-lg-2 img-rounded">
  <center>
          <center><span class="titlem">VISION OF WKU</span></center>
          <strong class="mission">
Wolkite University envisions being one of the best ten Universities in east Africa by 2027
E.C
    </strong>
    <center><span class="titlem">MISSION OF WKU</span></center>
    <strong class="mission">
    <p>
                The University as indicated in the
                proclamation NO.650/2009,has the
                following missions:
    </p>
```

```
    <p>
                To produce gradutes who are
                knowledge able,attitudinally mature
                and practically Innovative:
    </p>
    <p>
                To supply relevant and demanded t
                icehnology and knowledge that
                address national and community
                level development problems
                to help make operations of the
                government and non-government
                organizations efficinet,effective
                and competitive:
    </p>
    <p>
To provide training and consulting  services to the community and the government:
    </p>
   </strong>
  </center>
 </div>
 <div class="sl col-sm-12 col-md-12 col-lg-10">
    <div class="tab-content">
      <div id="home" class="tab-pane fade in active">
```

```
<?php
  include 'slider.php';
?>
</div>
<div id="menu1" class="tab-pane fade">
 <?php
    include "aboutdeveloper.php";
 ?>
</div>
<div id="menu2" class="tab-pane fade">
 <?php
    include "aboutWku.php";
 ?>
</div>
<div id="gallery" class="tab-pane fade">
 <?php
 include 'photoGallery.php';
 ?>
</div>
</div>
</div>
      <?php
       include("footer.php");
       ?>
```

```
<?php
 include("login.php");
 ?>
```

- Sample code for admin page

```
<nav class="navbar1 navbar navbar-inverse img-rounded">
  <div class="container-fluid">
    <div class="navbar-header">
     <button type="button" class="navbar-toggle" data-toggle="collapse" data-target="#myNavbar">
       <span class="icon-bar"></span>
       <span class="icon-bar"></span>
       <span class="icon-bar"></span>
      </button>
     <span><img src="../pic/th.jpg" class="logo img-circle"><span class="wkua"> WKU</span> </span><span class="inve">Inventory</span>
    </div>
    <div class="collapse navbar-collapse" id="myNavbar">
      <ul class="nav nav-tabs nav-justified">
       <li></li>
       <li><a class="list" href="admin.php">Dashboard</a></li>
       <li><a class="list" href="amanage.php">Manage Account</a></li>
       <li><a class="list" href="archive.php">Manage RecycleBin</a></li>
       <li><a class="list" href="activity.php">Manage Activity</a></li>
       <li ><a class="list" href="../logout.php?logout"><span class=" glyphicon glyphicon-log-out"></span> Logout</a></li>
```

```
    </ul>
   </div>
  </div>
</nav>
  <div class="co img-rounded col-lg-2 col-sm-12 col-md-12 navbar-inverse">
   <span class="btn1">Welcome <?php echo $_SESSION['fullname']; ?></span>
   <center><img class="photo img-circle" src=<?php echo $_SESSION['photo']; ?>></center>
   <center><h3 class="txt">User Profile</h3></center>
    <div class="profe">
     <p class="spa"><span class="glyphicon glyphicon-user"></span> Role: <?php echo $_SESSION['role']; ?></p>
     <p class="spa"><span class="glyphicon glyphicon-user"></span> User Name: <?php echo $_SESSION['user']; ?></p>
     <p class="spa"><span class="glyphicon glyphicon-time"></span> Last Login: <?php echo $_SESSION['time']; ?></p>
    </div><br><br>
    <div>
     <div>
      <a href="#change" class="btn btn-info btn-block" data-toggle="modal"><span class="glyphicon glyphicon-pencil"></span>Change Password</a>
     </div><br>
     <?php
        $status='New';
       $id=$_SESSION['idnumber'];
       include 'dbconnection.php';
```

```
$query="select * from notification where status='".$status."' and requester_id='".$id."'";
$result=mysqli_query($mysqli,$query);
if(mysqli_fetch_assoc($result)):
?>
<li>
<a href="#notify" name="notification" class="btn btn-success btn-block" data-toggle="modal"><span class="btn-warning glyphicon glyphicon-envelope"></span> Notification </a>
</li>
<?php else: ?>
<li><a href="#notify" name="notification" class="btn btn-primary btn-block" data-toggle="modal"> Notification </a></li>
<?php endif; ?>
</div>
</div>
<?php include 'changePass.php'; ?>
<?php include 'notification.php'; ?>
```

- Sample code for manager page

```
<nav class="navbar1 navbar navbar-inverse">
<div class="container-fluid">
<div class="navbar-header">
<button type="button" class="navbar-toggle" data-toggle="collapse" data-target="#myNavbar">
<span class="icon-bar"></span>
<span class="icon-bar"></span>
```

```
      <span class="icon-bar"></span>
    </button>
    <span><img src="../pic/th.jpg" class="logo img-circle"><span class="wkua"> WKU</span> </span><span class="inve">Inventory</span>
  </div>
  <div class="collapse navbar-collapse" id="myNavbar">
    <ul class="nav nav-tabs nav-justified">
      <li></li>
      <li><a class="list" href="manager.php">Dashboard</a></li>
      <li class="dropdown"><a class="list dropdown-toggle" data-toggle="dropdown" href="#">Manage Request<span class="caret"></span></a>
          <ul class="dropdown-menu">
            <li><a class="list1" href="stockmanageRequest.php">Take Item</a></li>
            <li><a class="list1" href="transferapproval.php">Transfer Item</a></li>
          </ul>
      </li>
      <li ><a class="list" href="viewitem.php">View Item</a></li>
      <li ><a class="list" href="viewComment.php">view Comment</a></li>
      <li ><a href="#post" class="list" data-toggle="modal">Post NEWS</a></li>
      <li ><a class="list" href="../logout.php?logout"><span class=" glyphicon glyphicon-log-in"></span> Logout</a></li>
    </ul>
  </div>
 </div>
</nav>
```

```
<div class="co col-lg-2 col-sm-12 col-md-12">
        <span class="btn1">Welcome <?php echo $_SESSION['fullname']; ?></span>
  <center><img class="photo img-circle" src=<?php echo $_SESSION['photo']; ?>></center>
  <center><h3 class="txt">User Profile</h3></center>
    <div class="profe">
     <p class="spa"><span class="glyphicon glyphicon-user"></span> Role: <?php echo $_SESSION['role']; ?></p>
     <p class="spa"><span class="glyphicon glyphicon-user"></span> User Name: <?php echo $_SESSION['user']; ?></p>
     <p class="spa"><span class="glyphicon glyphicon-time"></span> Last Login: <?php echo $_SESSION['time']; ?></p>
    </div><br><br>
    <div>
     <div>
      <a href="#addaccount1" class="btn btn-info btn-block" data-toggle="modal"><span class="glyphicon glyphicon-pencil"></span>Change Password</a>
    </div><br>
    <div>
      <?php
        $status='New';
        $id=$_SESSION['idnumber'];
        include '../dbconnection.php';
              $query="select * from notification where status='".$status."' and requester_id='".$id."'";
               $result=mysqli_query($mysqli,$query);
```

```
            if(mysqli_fetch_assoc($result)):
        ?>
        <li>
          <a href="#notify" name="notification" class="btn btn-success btn-block" data-toggle="modal"><span class="btn-warning glyphicon glyphicon-envelope"></span> Notification </a>
          </li>
        <?php else: ?>
          <li><a href="#notify" name="notification" class="btn btn-primary btn-block" data-toggle="modal"> Notification </a></li>
        <?php endif; ?>
      </div><br>
      <div>
        <li><a href="generetReport.php" name="notification" class="btn btn-success btn-block"> <span class="glyphicon glyphicon-pencil"></span> View Reporte </a></li>
      </div><br>
    </div>
  </div>
  <?php include 'changePass.php'; ?>
  <?php include 'notification.php'; ?>
  <?php include 'postA.php'; ?>
<script>
$(document).ready(function(){
  $(".dropdown-toggle").dropdown();
});
```

```
</script>
```