

# **Stores Management System (SMS)**



**By**  
Ali Azeem Khan Wardag

**Supervised By**  
Ms. Memoona Afsheen Malik

**Department of Computer Sciences  
Quaid-i-Azam University  
Islamabad**

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Ali Azeem Khan Wardag  
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# Abstract

The product defines the web application known as “Stores Management System”. The main purpose of this application is to overcome the problems faced by the employees of Stores Department of NCP (National Centre of Physics) who manages the store manually i.e. paper based. In this work, we have focused to maximize the involvement of computer in managing the Store and minimizing the human effort. Store products record which could take months to compile and manage will be managed easily through this application. Many reports like personal inventory sheets and ledger details will be generated in the blink of an eye which was a big headache for the store employees before. System will store all data in the database for quick queries. All the work has been done using web technologies and python as a backend language.

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# **Chapter 1**

# **Software Project**

# **Management Plan**

## 1.1 Introduction

This chapter first introduces the Stores management System. It highlights the problem that has been addressed in this work along with the designed and developed solution. It also elaborates project organization and project planning. Finally, this chapter explains the scope and objectives of this project.

## 1.2 Project Description

The SMS project aims to develop a web-based management system dealing with Stores Department at National Centre for Physics. National Centre for Physics (NCP) is an organization that has been established to promote research in Physics and applied disciplines in the country and the region. More details about the organization can be found at <http://www.ncp.edu.pk/>. The SMS project should be able to provide assistance to stores manager in order to accomplish various tasks of Stores Department. The main objective of the system is to replace the paper-based business procedures i.e. making an indent for a new product, issuing a purchase order, undergoing an inspection activity, receiving new items in the Stores catalogue, issuing items existing in the Stores to an individual/department of NCP. with streamlined electronic workflow, validating data against corporate databases and automatically generating the end-result with minimum human intervention. To start with, the SMS system should first, incorporate all the essential workflows involved under the Stores Department. After completion of this first step, the project could look forward to offer generation of desired reports based upon various input criteria based on first step.

## 1.3 Existing System

In NCP (National Center of Physics) whenever any product is required by any employee, he has to submit request to grant that specific product in the form of requisition slip (paper based) to the Stores Department. And then Stores Department checks that whether the requested product is available in the store or not. If the product is available in the store then they issue that product to the requestor and maintain their issued products record in the form of issue vouchers (paper based) on which the product as well as the requestor details and the time period for which the product is issued is written.

When Stores Department receives any product(s) from procurement, then they have to maintain the head of accounts and ledger which actually describes the details of that product and also an SRV (Store Receipt Voucher) which describes the supplier and products details, their quantity and indent number etc. From which stores manager can keep record that how many products and in how much quantity products are left in the Store.

There are basically two categories of product i.e. consumable and non-consumable. Consumable products are those products which are finished by time and eventually they end like ballpoints and tissue papers etc. On the other hand, non-consumable products are those products which do not finish but used by time i.e. laptops and chairs etc.

Now when the non-consumable products are consumed enough by the employee so that the product is not useful for that employee, then he returns that product to the Stores Department and for that purpose, a manual entry form is maintained which is “Return Note” form.

When Stores Department wants any repairing of the product, transfer of the product or lends any product to any institution or organization out of the NCP then a “Gate Pass” form is also maintained along with “Store Transfer Voucher” which tells that which products are going out of NCP and where.

## 1.4 Problems in Existing System

Main problems faced in our existing system are: -

### 1.4.1 Lack of Storage Space

Paperwork can take up a significant amount of space, and this requirement will only get bigger as the number of documents you collect grows. For example if employee asks for a product many times then the requisition request forms will increase by huge amount. And thus eventually the amount of papers will increase enough to manage which can cause huge loss.

### 1.4.2 Human Effort

One of the biggest drawbacks of our existing system is associated with human work. As if stores manager wants to know all the allotments to a specific employee then he has to search a lot in the documents manually which is a big headache.

Furthermore, documents will typically need to be stored close to hand so that they can be accessed as quickly as possible. If they are located on another floor or in a different building, you could experience severe productivity losses when retrieving forms.

### 1.4.3 Editing Problems

If you want to make changes to a paper-based document, you will need to photocopy the original first - otherwise you will ruin it with edits and comments. This will need to be repeated every time you want to make more amendments and you may end up running out of space if significant alterations are required. Ultimately, editing becomes a messy and time-consuming process that could leave the original document in a sorry state.

### 1.4.4 Data Redundancy

Redundancy means having multiple copies of the same data. In our existing paper based system, each application has its own reference id and data files which are all written manually. The same data may be duplicated in more than one file. The duplication of data may create many problems such as:

- a) To update a specific data/record, the same data must be updated in all files; otherwise different file may have different information about a specific item.
- b) A valuable storage space is wasted.
- c) Data Inconsistency.
- d) Data Isolation.

## 1.5 Proposed System

As we can clearly see that the above-mentioned system is totally paper based so our basic motive is to computerize most of that system and convert it into web-based system. The Details of our proposed web-based system are described as follows.

**Name of Project:** Stores Management System (SMS)

## 1.6 Scope

Major Functionalities of our proposed system include

- a) Keep record and details about the following forms:
  - a. Store Receipt Note
  - b. Requisition Slip (Consumable Products)
  - c. Requisition Slip (Non-Consumable Products)
  - d. Gate Pass
  - e. Return Note
  - f. Issue Voucher
  - g. Store Transfer Voucher
- b) Make search easy about products and SRV's.
- c) Maintain updated record of all products (issued as well as present in the store).
- d) System should be able to generate Store Receipt Voucher (SRV).
- e) System should be able to generate personal inventory sheet.

## 1.7 Objective

Main objective of the system is to: -

“Overcome the problems faced in manual based existing system.”

## 1.8 Project Deliverables

Project Deliverables are

- a) Software Project Management Plan
- b) Software Requirements Specifications
- c) Software Design Description
- d) Software Test Documentation
- e) Implementation

## 1.9 Software Process Model

Scrum methodology from agile model will be used for the development of this project because of the following reasons:

In the agile Scrum world, instead of providing complete, detailed descriptions of how everything is to be done on a project, much of it is left up to the Scrum software development team. This is because the team will know best how to solve the problem they are presented.

This is why in Scrum development, for example, a sprint planning meeting is described in terms of the desired outcome (a commitment to a set of features to be developed in the next sprint) instead of a set of Entry criteria, Task definitions, Validation criteria, exit criteria and so on, as would be provided in most methodologies.

In Scrum, a team is cross functional, meaning everyone is needed to take a feature from idea to implementation.

Regular meetings with the supervisor will hold.

The Scrum methodology suggests that projects progress via a series of sprints. In keeping with an agile model, sprints are time boxed to no more than a month long, most commonly two weeks. In our case it is weekly.

## 1.10 Project Plan

Following is the plan and Gantt chart of the project:

1	☐ Procurement and Stores Management System (PSMS)	173 days?	11/5/18 8:00 AM	7/3/19 5:00 PM	
2	Project understanding	7 days?	11/5/18 8:00 AM	11/13/18 5:00 PM	
3	☐ Software Project Mangement Plan	10 days?	11/14/18 8:00 AM	11/27/18 5:00 PM	2 Ali Azeem Khan Wardag;MS Word;PC
4	Write Introduction	1 day?	11/14/18 8:00 AM	11/14/18 5:00 PM	
5	Define Existing System	1 day?	11/15/18 8:00 AM	11/15/18 5:00 PM	4
6	Define problems in old system	1 day?	11/16/18 8:00 AM	11/16/18 5:00 PM	5
7	Propose Solution	1 day?	11/19/18 8:00 AM	11/19/18 5:00 PM	6
8	Define Scope and Objective	1 day?	11/20/18 8:00 AM	11/20/18 5:00 PM	7
9	Define Project Deliverables	1 day?	11/21/18 8:00 AM	11/21/18 5:00 PM	8
10	Selection of Process Model	1 day?	11/22/18 8:00 AM	11/22/18 5:00 PM	9
11	Define Project Management Plan	2 days?	11/23/18 8:00 AM	11/26/18 5:00 PM	10 Project Libre
12	Review and Modify Whole document	1 day?	11/27/18 8:00 AM	11/27/18 5:00 PM	11 Ali Azeem Khan Wardag
13	☐ Analysis and Requirement	64 days?	11/28/18 8:00 AM	2/25/19 5:00 PM	12 Ali Azeem Khan Wardag;MS Word;PC
14	☐ Software Requirement Specification	34 days?	11/28/18 8:00 AM	1/14/19 5:00 PM	
15	Give Introduction and Overview	1 day?	11/28/18 8:00 AM	11/28/18 5:00 PM	
16	Identify Specific Requirements	2 days?	11/28/18 8:00 AM	11/29/18 5:00 PM	
17	Identify Use Cases	2 days?	11/30/18 8:00 AM	12/3/18 5:00 PM	16
18	Make UseCase Diagram	1 day?	12/4/18 8:00 AM	12/4/18 5:00 PM	17 Diagram Designer
19	Review and Refine UC Diagram	2 days?	12/5/18 8:00 AM	12/6/18 5:00 PM	18 Mam Meemona Afsheen Malik;Dr.Muhammad I...
20	Define UseCase descriptions	4 days?	12/7/18 8:00 AM	12/12/18 5:00 PM	19
21	Review and Refine UC Description	1 day?	12/13/18 8:00 AM	12/13/18 5:00 PM	20 Mam Meemona Afsheen Malik;Dr.Muhammad I...
22	Define System Attributes	4 days?	12/14/18 8:00 AM	12/19/18 5:00 PM	21
23	Make Domain Model	3 days?	12/20/18 8:00 AM	12/24/18 5:00 PM	22 Diagram Designer
24	Review and Refine SRS	3 days?	12/25/18 8:00 AM	12/27/18 5:00 PM	23 Mam Meemona Afsheen Malik;Dr.Muhammad I...
25	Provide 1st Deliverable	1 day?	12/28/18 8:00 AM	12/28/18 5:00 PM	24
26	Define Database	1 day?	12/31/18 8:00 AM	12/31/18 5:00 PM	25

Figure 1 Project Management Plan (a)

27		Define Entities	1 day?	1/1/19 8:00 AM	1/1/19 5:00 PM	26	
28		Make ERD	1 day?	1/2/19 8:00 AM	1/2/19 5:00 PM	27	
29		Review ERD	3 days?	1/3/19 8:00 AM	1/7/19 5:00 PM	28	
30		System Sequence Diagrams	1 day?	1/8/19 8:00 AM	1/8/19 5:00 PM	29	
31		Review SSDs	1 day?	1/9/19 8:00 AM	1/9/19 5:00 PM	30	
32		Review Complete SRS	3 days?	1/10/19 8:00 AM	1/14/19 5:00 PM	31	
33	🚶	📁 <b>Software Design Description</b>	15 days?	<b>1/15/19 8:00 AM</b>	<b>2/4/19 5:00 PM</b>	32	<b>Ali Azeem Khan Wardag;MS Word</b>
34		Give Introduction and Overview	1 day?	1/15/19 8:00 AM	1/15/19 5:00 PM		
35		Make Activity Diagrams	2 days?	1/15/19 8:00 AM	1/16/19 5:00 PM		Diagram Designer
36		Review and Refine Activity Diagram	1 day?	1/17/19 8:00 AM	1/17/19 5:00 PM	35	Mam Meemona Afsheen Malik;Dr.Muhar
37		Make System Architectural Design	3 days?	1/15/19 8:00 AM	1/17/19 5:00 PM		Diagram Designer
38		Review and Refine Architecture Diagram	1 day?	1/18/19 8:00 AM	1/18/19 5:00 PM	37	Mam Meemona Afsheen Malik;Dr.Muhar
39		Make Sequence Diagrams	2 days?	1/21/19 8:00 AM	1/22/19 5:00 PM	38	Diagram Designer
40		Review and Refine SD	1 day?	1/23/19 8:00 AM	1/23/19 5:00 PM	39	Mam Meemona Afsheen Malik;Dr.Muhar
41		Identify Classes	3 days?	1/24/19 8:00 AM	1/28/19 5:00 PM	40	Ali Azeem Khan Wardag
42		Make Class Diagram	2 days?	1/29/19 8:00 AM	1/30/19 5:00 PM	41	Diagram Designer
43		Review and Refine Class Diagram	2 days?	1/31/19 8:00 AM	2/1/19 5:00 PM	42	Mam Meemona Afsheen Malik;Dr.Muhar
44		Review and Refine Software Design Description	1 day?	2/4/19 8:00 AM	2/4/19 5:00 PM	43	Mam Meemona Afsheen Malik;Dr.Muhar
45	🚶	📁 <b>Make User Manual</b>	6 days?	<b>2/5/19 8:00 AM</b>	<b>2/12/19 5:00 PM</b>	44	<b>Ali Azeem Khan Wardag;MS Word</b>
46		Make User Interfaces	3 days?	2/5/19 8:00 AM	2/7/19 5:00 PM		
47		Give Description of UI	2 days?	2/8/19 8:00 AM	2/11/19 5:00 PM	46	
48		Review and Refine UI	1 day?	2/12/19 8:00 AM	2/12/19 5:00 PM	47	Mam Meemona Afsheen Malik;Dr.Muhar
49	🚶	📁 <b>Make Software Test Document</b>	3 days?	<b>2/13/19 8:00 AM</b>	<b>2/15/19 5:00 PM</b>	48	<b>Ali Azeem Khan Wardag;MS Word</b>
50		Make Test Cases	2 days?	2/13/19 8:00 AM	2/14/19 5:00 PM		MS Word
51		Review and Refine Test Document	1 day?	2/15/19 8:00 AM	2/15/19 5:00 PM	50	Mam Meemona Afsheen Malik;Dr.Muhar
52		Review Analysis and Design Document	5 days?	2/18/19 8:00 AM	2/22/19 5:00 PM	51	Mam Meemona Afsheen Malik;Dr.Muhar
53		Provide 2nd Deliverable	1 day?	2/25/19 8:00 AM	2/25/19 5:00 PM	52	

Figure 3 Project Management Plan (b)

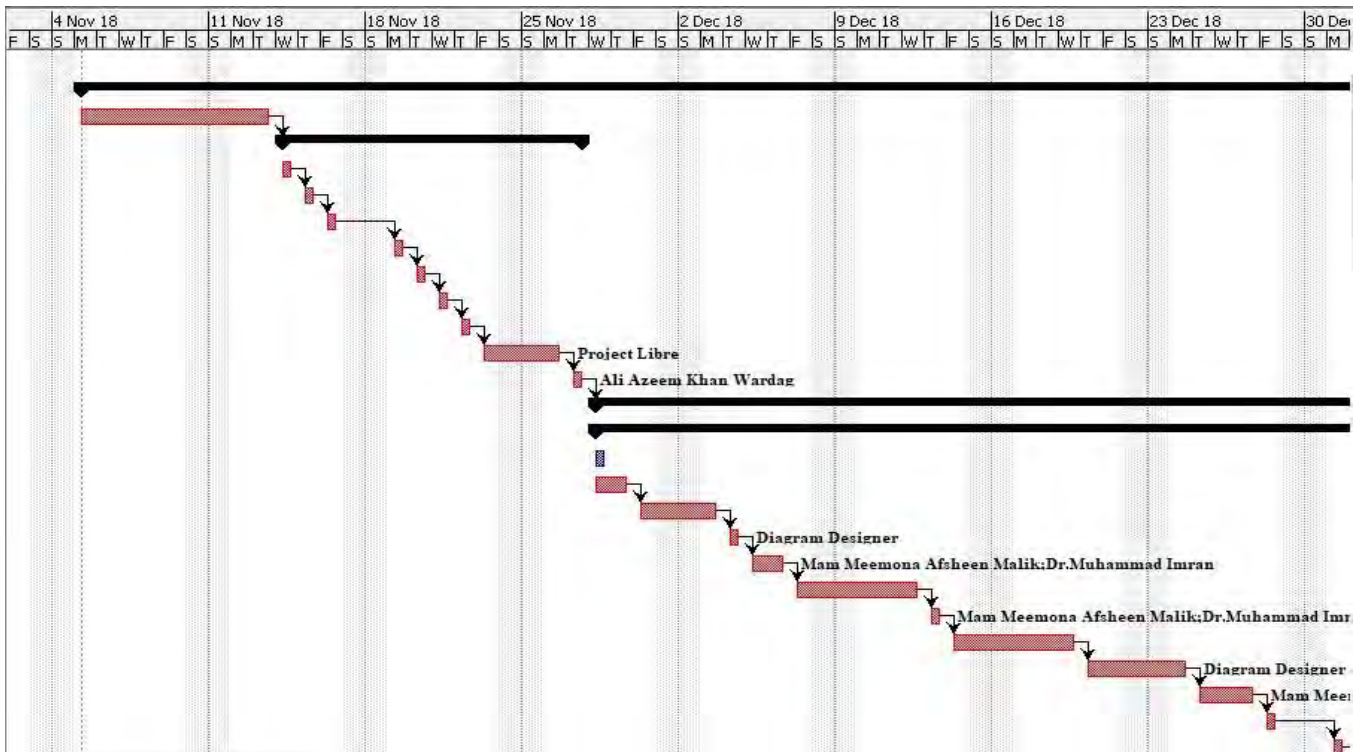


Figure 2 Project Management Plan (c)

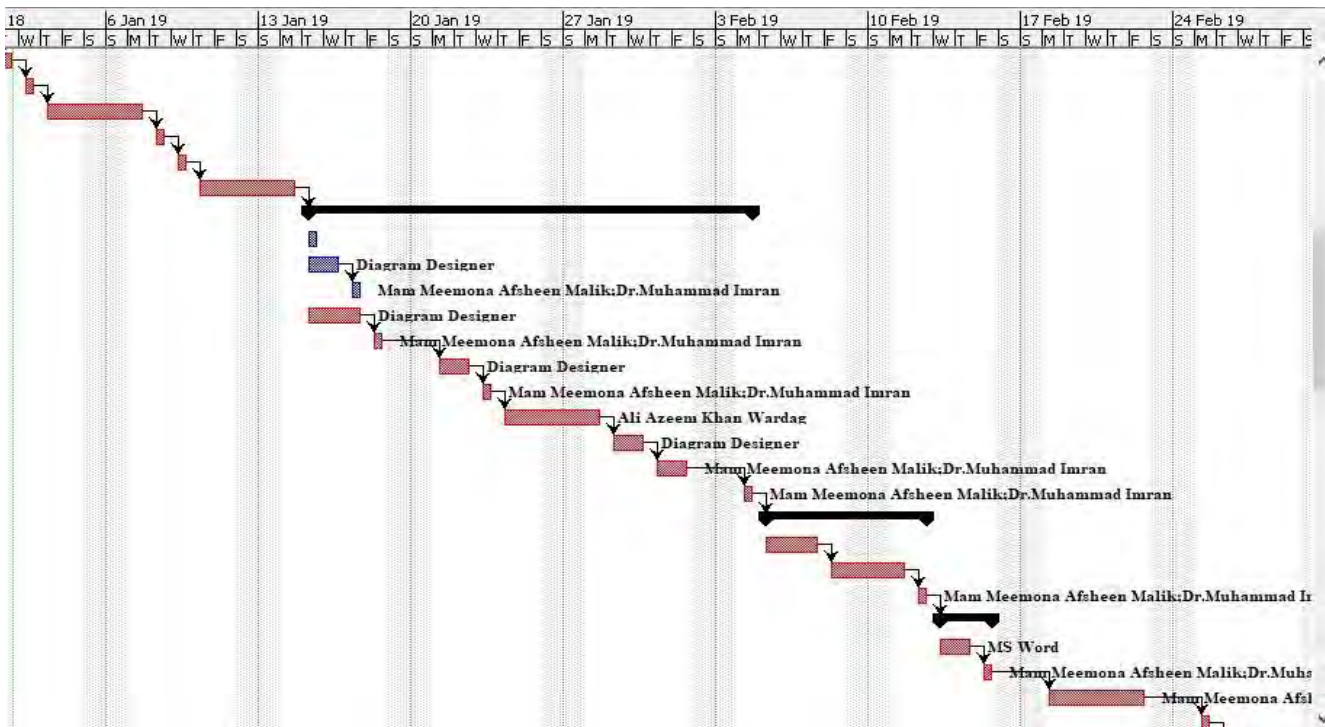


Figure 4 Project Management Plan (d)

### 1.11 Overview

This chapter has briefly introduced the project description, existing system problems and proposed solution which described the scope, objectives and project management plan. This has also described the software process model which will be followed throughout the implementation process. Now in chapter 2, project’s functional and non-functional requirements will be described.



# **Chapter 2**

# **Software Requirement**

# **Specifications**

## 2.1 Product Overview

The developed distributed web-based application is implemented in Python version 3.7.0 (framework Flask). Stores Manager and some employees of stores department at NCP are eligible to use this application. Through this application, user will keep record of all incoming and outgoing products from store with the help of SRV's, requisition slips and Store Transfer Vouchers. User will also be able to generate the personal inventory sheet of any employee using this web application.

## 2.2 Major Inputs and outputs

Major inputs given to the system and outputs given by system are described as follows.

### 2.2.1 Major Inputs

Major inputs to the system include

1. Usernames and Passwords of the Users
2. New Products and their Categories details
3. Store Receipt Voucher (SRV) Details
4. Product allotments to employees' record
5. Return Note Details
6. Products Transfer Details

### 2.2.2 Major Outputs

Major outputs include

1. Personal Inventory Sheets of any employee
2. All headers, available products and issued products details
3. All SRV's details

### 2.2.3 Major Functionalities

Major Functionalities of our proposed system include

- a) Keep record and details about the following forms:
  - a. Store Receipt Note
  - b. Requisition Slip (Consumable Products)
  - c. Requisition Slip (Non-Consumable Products)
  - d. Gate Pass
  - e. Return Note
  - f. Issue Voucher
  - g. Store Transfer Voucher
- b) Make search easy about products and SRV's.
- c) Maintain updated record of all products (issued as well as present in the store).
- d) System should be able to generate Store Receipt Voucher (SRV).
- e) System should be able to generate personal inventory sheet.

## 2.3 Tools and Techniques

- a) CMD for python
- b) Sublime Text for HTML
- c) Flask framework of python
- d) Microsoft SQL Server (2012)
- e) Microsoft Word
- f) Project Libre (for Project Plan)
- g) Diagram Designer

## 2.4 Users

Stores Manager and Employees at Stores Department at NCP are eligible and will use this web application.

## 2.5 Assumptions and Dependencies

It is assumed that internet services are available to the users and they have digital computer having browsers (Firefox Preferred).

## 2.6 Abbreviations and Acronyms

- a) NCP - National Centre of Physics
- b) SRV - Store Transfer voucher which is made when items/products are entered in the store.
- c) Requisition - It is the slip made when any employees requests for the products and store manager issues them that product
- d) Return Note - It is also a slip made when employee returns the product.
- e) STV – Store Transfer Voucher, it is made when any product is required to take outside of the NCP to some other institution/organization. Gate Pass is also issued accordingly.

## 2.7 Software System Attributes

System should possess the following attributes.

### 2.7.1 Reliability

System should be reliable. There should be no occurrence of the failure. The system should be able to work properly all-time, i.e., to the extent to which it works as and when needed. The system should give proper response against every mistake performed by user.

### 2.7.2 Availability

System should be available to user at any time.

### 2.7.3 Security

Since this system will be hosted within the organizational network, user should only be able to access the system through his personal computer where he can use this web application. No other members in the network can access the personal account of any of the employee. The system has its own login credentials to use it. User must enter his login credentials before using the system.

### 2.7.4 Maintainability

In some cases, maintainability involves continuous improvement in the system, learning from the past in order to improve the ability to maintain systems, or improve the reliability of systems on the basis of maintenance experience. The application should be easy to extend. The code should be written in a way that it favors implementation of new functions.

### 2.7.5 Portability

This is a web-based application. It runs on any of the digital system having internet access and browser like computers, laptops, and mobiles.

### 2.7.6 Performance

System should be able to deal with numerous users at a time.

### 2.8 Use Case Diagram

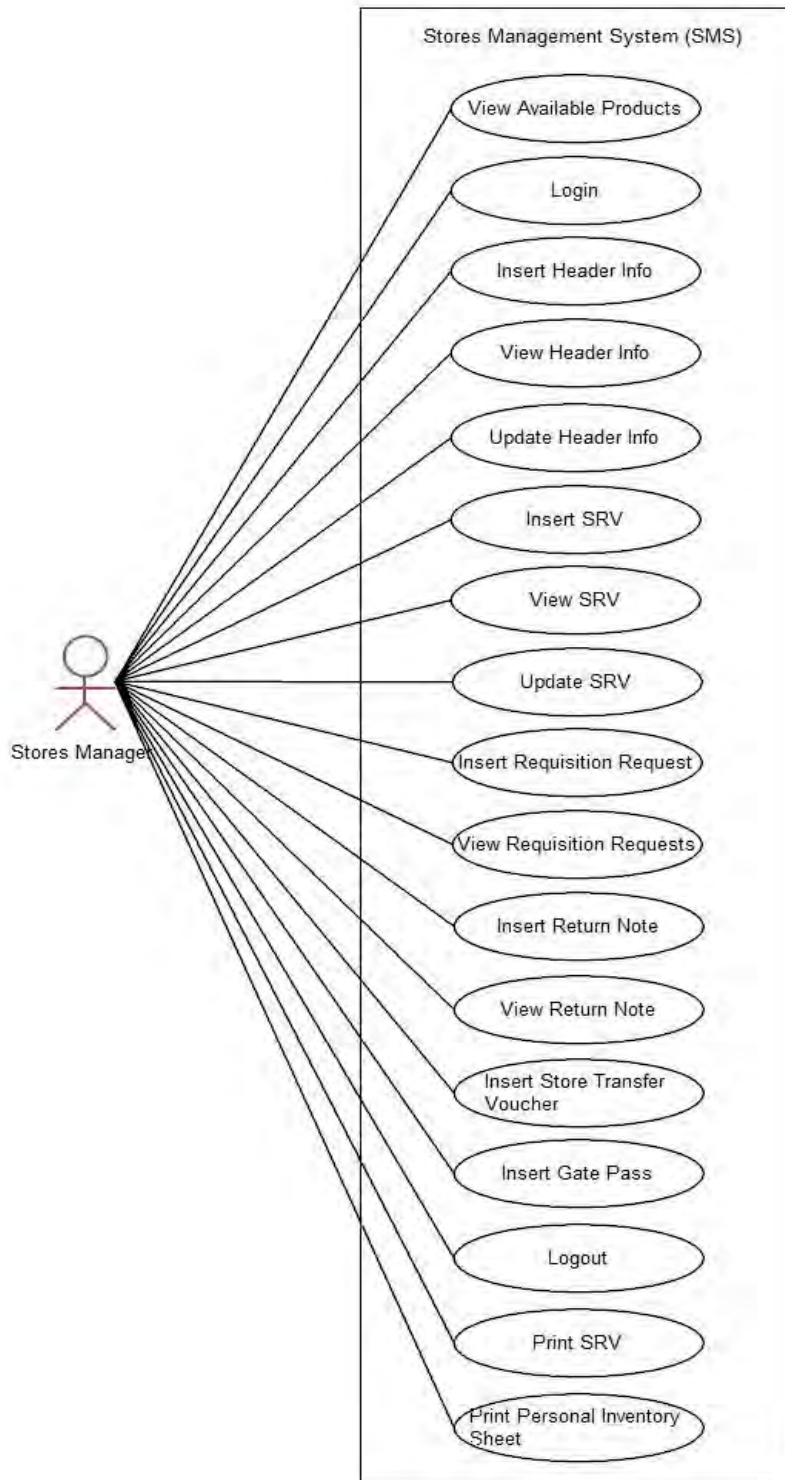


Figure 5 Use Case Diagram

## 2.9 Use Case Description

Above mentioned use cases are described in details as follows.

### 2.9.1 Login

**Table 1 Login Use case**

<b>ID</b>	UC1
<b>Name</b>	Login
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	<ol style="list-style-type: none"> <li>1) Stores Manager has an account in LDAP at NCP and he knows his credentials.</li> <li>2) Stores Manager has a digital device (computer/laptop/tablet etc.) having stable internet connection.</li> <li>3) Stores Manager has VPN of NCP configured in his digital device.</li> </ol>
<b>Post Condition</b>	Stores Manager is logged in successfully and Home page is displayed.
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1) System displays login page.</li> <li>2) Stores Manager enters Username and password.</li> <li>3) Stores Manager selects the login option.</li> <li>4) System validates user credentials from LDAP</li> <li>5) System displays the Home Screen.</li> </ol>
<b>Alternative flows or Extensions</b>	<p>*Server down or Internet link down</p> <ol style="list-style-type: none"> <li>1. Stores Manager Waits until internet and server is recovered.</li> </ol> <ol style="list-style-type: none"> <li>1a) Stores Manager enters incorrect credentials.             <ol style="list-style-type: none"> <li>1. System prompts to enter correct username.</li> </ol> </li> <li>2a) Stores Manager submits information without filling all required fields.             <ol style="list-style-type: none"> <li>1. System asks user to fill all required fields.</li> </ol> </li> <li>4a) VPN is not connected or configured.             <ol style="list-style-type: none"> <li>1. System Prompts AD Server Not Available.</li> <li>2. Stores Manager Configure/Connects VPN and try again.</li> </ol> </li> </ol>
<b>Frequency</b>	Could be nearly continuous

## 2.9.2 Logout

**Table 2 Logout Use Case**

<b>ID</b>	UC2
<b>Name</b>	Logout
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	Stores Manager is logged In to the system.
<b>Post Condition</b>	1) Stores Manager logged out successfully 2) Login page is displayed.
<b>Main Success Scenario</b>	1) Stores Manager selects logout option. 2) System displays login page.
<b>Alternative flows or Extensions</b>	*Server down or Internet link down 1. Stores Manager will wait for internet and server to recover.
<b>Frequency</b>	Could be nearly continuous.

## 2.9.3 Insert Header Info

**Table 3 Insert Header Info Use Case**

<b>ID</b>	UC3
<b>Name</b>	Insert Header Info
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	Stores Manager is logged in to the system.
<b>Post Condition</b>	1) Header info has been added in the system successfully
<b>Main Success Scenario</b>	1) Stores Manager selects Header option. 2) System displays the options about header. 3) Stores Manager selects insert option 4) System Shows form about header information 5) Stores Manager fills the form according to the requirements. 5a) Stores Manager can add multiple headers. 6) Stores Manager selects save option, 7) System saves the header information.
<b>Alternative flows or Extensions</b>	*Server down or Internet link down 1. Stores Manager waits until internet and server are recovered 5) Stores Manager leaves any field(s) blank. 1. System Prompts to insert the require fields in required format,
<b>Frequency</b>	Could be nearly continuous

### 2.9.4 View Header Info

**Table 4 View Header Info Use Case**

<b>ID</b>	UC4
<b>Name</b>	View Header Info
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	1) Stores Manager is logged in to the system. 2) Header Information is already inserted and saved in the system.
<b>Post Condition</b>	1) Required Header Information is displayed.
<b>Main Success Scenario</b>	1) Stores Manager selects the header option. 2) System displays options about header. 3) Stores Manager selects view option. 4) System displays all headers list. 5) Stores Manager searches his required header and selects its name. 6) System displays that specific headers information.
<b>Alternative flows or Extensions</b>	*Server down or Internet link down 1. Stores Manager Waits until internet and server are recovered 4a) No Header is available in the system 1. Stores Manager inserts new header info using use case UC3
<b>Frequency</b>	Could be nearly continuous

### 2.9.5 Update Header Info

**Table 5 Update Header Info Use Case**

<b>ID</b>	UC5
<b>Name</b>	Update Header Info
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	1) Stores Manager is logged in to the system. 2) Header Information is already inserted and saved in the system.
<b>Post Condition</b>	1) Required Header Information is updated.
<b>Main Success Scenario</b>	1) Stores Manager selects the header option. 2) System displays options about header. 3) Stores Manager selects view option. 4) System displays all headers list. 5) Stores Manager searches his required header and selects its name. 6) System displays that specific headers information. 7) Stores Manager updates header info according to requirements and selects save option 8) System saves the updated record of header.
<b>Alternative flows or Extensions</b>	*Server down or Internet link down 1. Stores Manager Waits until internet and server are recovered 4a) No Header is available in the system 1. Stores Manager inserts new header info using use case UC3
<b>Frequency</b>	Could be nearly continuous



## 2.9.6 Insert SRV

Table 6 Insert SRV Use Case

<b>ID</b>	UC6
<b>Name</b>	Insert SRV
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	Stores Manager is logged in to the system.
<b>Post Condition</b>	1) Headers information has been added in the system successfully
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1) Stores Manager selects SRV option.</li> <li>2) System displays the options about SRV.</li> <li>3) Stores Manager selects insert option</li> <li>4) System Shows form about SRV</li> <li>5) Stores Manager fills the form according to the requirements.</li> <li>5a) Stores Manager can add multiple products.</li> <li>6) Stores Manager selects save option,</li> <li>7) System saves the SRV.</li> </ol>
<b>Alternative flows or Extensions</b>	<p>*Server down or Internet link down</p> <ol style="list-style-type: none"> <li>1. Stores Manager waits until internet and server are recovered</li> </ol> <p>5) Stores Manager leaves any field(s) blank.</p> <ol style="list-style-type: none"> <li>1. System Prompts to insert the require fields in required format,</li> </ol>
<b>Frequency</b>	Could be nearly continuous

## 2.9.7 View SRV

Table 7 View SRV Use Case

<b>ID</b>	UC7
<b>Name</b>	View SRV
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	<ol style="list-style-type: none"> <li>1) Stores Manager is logged in to the system.</li> <li>2) SRV is already inserted and saved in the system.</li> </ol>
<b>Post Condition</b>	1) Desired SRV is displayed.
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1) Stores Manager selects the SRV option.</li> <li>2) System displays options about SRV.</li> <li>3) Stores Manager selects view option.</li> <li>4) System displays all SRV's list.</li> <li>5) Stores Manager searches his required header and selects its id.</li> <li>6) System displays that specific SRV information in detail.</li> </ol>
<b>Alternative flows or Extensions</b>	<p>*Server down or Internet link down</p> <ol style="list-style-type: none"> <li>1. Stores Manager Waits until internet and server are recovered</li> </ol> <p>4a) No SRV is available in the system</p> <ol style="list-style-type: none"> <li>1. Stores Manager inserts new SRV using use case UC6</li> </ol>
<b>Frequency</b>	Could be nearly continuous

## 2.9.8 Update SRV

Table 8 Update SRV Use Case

<b>ID</b>	UC8
<b>Name</b>	Update SRV
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	1) Stores Manager is logged in to the system. 2) SRV is already inserted and saved in the system.
<b>Post Condition</b>	1) Desired SRV has been updated.
<b>Main Success Scenario</b>	1) Stores Manager selects the SRV option. 2) System displays options about SRV. 3) Stores Manager selects view option. 4) System displays all SRV's list. 5) Stores Manager searches his required SRV and selects its id. 6) System displays that specific SRV information. 7) Stores Manager updates SRV details according to requirements and selects save option 8) System saves the updated record of that SRV.
<b>Alternative flows or Extensions</b>	*Server down or Internet link down 1. Stores Manager Waits until internet and server are recovered 4a) No SRV is available in the system 1. Stores Manager inserts new SRV using use case UC6
<b>Frequency</b>	Could be nearly continuous

### 2.9.9 Insert Requisition Request

**Table 9 Insert Requisition Request Use Case**

<b>ID</b>	UC9
<b>Name</b>	Insert Requisition Request
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	Stores Manager is logged in to the system.
<b>Post Condition</b>	1) Requisition Request has been added in the system successfully
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1) Stores Manager selects Requisition Request option.</li> <li>2) System displays the options about Requisition Request.</li> <li>3) Stores Manager selects insert option.</li> <li>4) System Shows form about Requisition Request.</li> <li>5) Stores Manager fills the form according to the requirements.</li> <li>6) Stores Manager selects save option,</li> <li>7) System saves the Requisition Request.</li> </ol>
<b>Alternative flows or Extensions</b>	<p>*Server down or Internet link down</p> <ol style="list-style-type: none"> <li>1. Stores Manager waits until internet and server are recovered</li> <li>6) Stores Manager leaves any field(s) blank. <ol style="list-style-type: none"> <li>1. System Prompts to insert the require fields in required format.</li> </ol> </li> </ol>
<b>Frequency</b>	Could be nearly continuous

### 2.9.10 View Requisitions

**Table 10 View Requisition Use Case**

<b>ID</b>	UC10
<b>Name</b>	View Requisitions
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	<ol style="list-style-type: none"> <li>1) Stores Manager is logged in to the system.</li> <li>2) Requisitions are already inserted and saved in the system.</li> </ol>
<b>Post Condition</b>	1) Desired Requisitions is displayed.
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1) Stores Manager selects the Requisitions option.</li> <li>2) System displays options about Requisitions.</li> <li>3) Stores Manager selects view option.</li> <li>4) System displays all Requisitions list.</li> <li>5) Stores Manager searches his required Requisitions and selects its id.</li> <li>6) System displays that specific Requisitions information in detail.</li> </ol>
<b>Alternative flows or Extensions</b>	<p>*Server down or Internet link down</p> <ol style="list-style-type: none"> <li>1. Stores Manager Waits until internet and server are recovered</li> <li>4a) No Requisitions is available in the system <ol style="list-style-type: none"> <li>1. Stores Manager inserts new Requisitions using use case UC9</li> </ol> </li> </ol>
<b>Frequency</b>	Could be nearly continuous

### 2.9.11 Insert Return Note

**Table 11 Insert Return Note Use Case**

<b>ID</b>	UC11
<b>Name</b>	Insert Return Note
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	Stores Manager is logged in to the system.
<b>Post Condition</b>	1) Return Note has been added in the system successfully
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1) Stores Manager selects Return Note option.</li> <li>2) System displays the options about Return Note.</li> <li>3) Stores Manager selects insert option.</li> <li>4) System Shows form about Return Note.</li> <li>5) Stores Manager fills the form according to the requirements.</li> <li>6) Stores Manager selects save option.</li> <li>7) System saves the Return Note.</li> </ol>
<b>Alternative flows or Extensions</b>	<p>*Server down or Internet link down</p> <ol style="list-style-type: none"> <li>1. Stores Manager waits until internet and server are recovered</li> <li>6) Stores Manager leaves any field(s) blank. <ol style="list-style-type: none"> <li>1. System Prompts to insert the require fields in required format.</li> </ol> </li> </ol>
<b>Frequency</b>	Could be nearly continuous

### 2.9.12 View Return Note

**Table 12 View Return Note Use Case**

<b>ID</b>	UC12
<b>Name</b>	View Return Note
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	<ol style="list-style-type: none"> <li>1) Stores Manager is logged in to the system.</li> <li>2) Return Notes are already inserted and saved in the system.</li> </ol>
<b>Post Condition</b>	1) Desired Return Note is displayed.
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1) Stores Manager selects the Return Note option.</li> <li>2) System displays options about Return Note.</li> <li>3) Stores Manager selects view option.</li> <li>4) System displays all Return Note list.</li> <li>5) Stores Manager searches his required Return Note and selects its id.</li> <li>6) System displays that specific Return Note information in detail.</li> </ol>
<b>Alternative flows or Extensions</b>	<p>*Server down or Internet link down</p> <ol style="list-style-type: none"> <li>1. Stores Manager Waits until internet and server are recovered</li> <li>4a) No Return Note is available in the system <ol style="list-style-type: none"> <li>1. Stores Manager inserts new Return Note using use case UC11</li> </ol> </li> </ol>
<b>Frequency</b>	Could be nearly continuous

### 2.9.13 Insert Store Transfer Voucher

**Table 13 Insert Store Transfer Voucher Use Case**

<b>ID</b>	UC13
<b>Name</b>	Insert Store Transfer Voucher
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	Stores Manager is logged in to the system.
<b>Post Condition</b>	1) Store Transfer Voucher has been added in the system successfully
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1) Stores Manager selects Store Transfer Voucher option.</li> <li>2) System displays the options about Store Transfer Voucher.</li> <li>3) Stores Manager selects insert option.</li> <li>4) System Shows form about Store Transfer Voucher.</li> <li>5) Stores Manager fills the form according to the requirements.</li> <li>6) Stores Manager selects save option.</li> <li>7) System saves the Store Transfer Voucher.</li> </ol>
<b>Alternative flows or Extensions</b>	<p>*Server down or Internet link down</p> <ol style="list-style-type: none"> <li>1. Stores Manager waits until internet and server are recovered</li> <li>6) Stores Manager leaves any field(s) blank.               <ol style="list-style-type: none"> <li>1. System Prompts to insert the require fields in required format.</li> </ol> </li> </ol>
<b>Frequency</b>	Could be nearly continuous

### 2.9.14 Insert Gate Pass

**Table 14 Insert Gate Pass Use Case**

<b>ID</b>	UC14
<b>Name</b>	Insert Gate Pass
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	Stores Manager is logged in to the system.
<b>Post Condition</b>	1) Gate Pass has been added in the system successfully
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1) Stores Manager selects Gate Pass option.</li> <li>2) System displays the options about Gate Pass.</li> <li>3) Stores Manager selects insert option.</li> <li>4) System Shows form about Gate Pass.</li> <li>5) Stores Manager fills the form according to the requirements.</li> <li>6) Stores Manager selects save option.</li> <li>7) System saves the Gate Pass.</li> </ol>
<b>Alternative flows or Extensions</b>	<p>*Server down or Internet link down</p> <ol style="list-style-type: none"> <li>1. Stores Manager waits until internet and server are recovered</li> <li>6) Stores Manager leaves any field(s) blank.               <ol style="list-style-type: none"> <li>1. System Prompts to insert the require fields in required format.</li> </ol> </li> </ol>
<b>Frequency</b>	Could be nearly continuous

**2.9.15 View Available Products****Table 15 View Available Products Use Case**

<b>ID</b>	UC15
<b>Name</b>	View Available Products
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	1) Stores Manager is logged in to the system. 2) Products are already inserted using SRV and saved in the system.
<b>Post Condition</b>	1) Available Products details are displayed.
<b>Main Success Scenario</b>	1) Stores Manager selects the Header option. 2) System displays options about Header. 3) Stores Manager selects view available products option. 4) System displays all Available Products list.
<b>Alternative flows or Extensions</b>	*Server down or Internet link down 1. Stores Manager Waits until internet and server are recovered 4a) No Return Note is available in the system 1. Stores Manager inserts new Products using SRV in use case UC6
<b>Frequency</b>	Could be nearly continuous

## 2.9.16 Print SRV

Table 16 Print SRV Use Case

<b>ID</b>	UC16
<b>Name</b>	Print SRV
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	1) Stores Manager is logged in to the system. 2) SRV is already inserted and saved in the system.
<b>Post Condition</b>	1) Desired SRV is printed.
<b>Main Success Scenario</b>	1) Stores Manager selects the SRV option. 2) System displays options about SRV. 3) Stores Manager selects view option. 4) System displays all SRV's list. 5) Stores Manager searches his required header and selects view/print option. 6) System displays print preview of that specific SRV. 7) Stores Manager selects print option. 8) System displays print menu. 9) Stores Manager selects printer and selects print option. 10) System sends print request to printer and SRV is printed.
<b>Alternative flows or Extensions</b>	*Server down or Internet link down 1. Stores Manager Waits until internet and server are recovered 4a) No SRV is available in the system 1. Stores Manager inserts new SRV using use case UC6 9a) Printer is not available 1. System prompts error 2. Stores Manager may select pdf option and print in pdf format.
<b>Frequency</b>	Could be nearly continuous

### 2.9.17 Print Personal Inventory Sheet

**Table 16 Print Personal Inventory Sheet Use Case**

<b>ID</b>	UC17
<b>Name</b>	Print Personal Inventory Sheet
<b>Primary Actor</b>	Stores Manager at NCP
<b>Pre-Condition</b>	1) Stores Manager is logged in to the system. 2) Requisition Request Slips are already inserted and saved in the system.
<b>Post Condition</b>	1) Desired Personal Inventory Sheet is printed.
<b>Main Success Scenario</b>	1) Stores Manager selects the Requisition option. 2) System displays options about Requisition. 3) Stores Manager selects Personal Inventory Sheet option. 4) System displays form to select the employee list. 5) Stores Manager searches and selects required employee and selects view/print option. 6) System displays print preview of that specific employees Personal Inventory Sheet. 7) Stores Manager selects print option. 8) System displays print menu. 9) Stores Manager selects printer and then selects print option. 10) System sends print request to printer and Personal Inventory Sheet is printed.
<b>Alternative flows or Extensions</b>	*Server down or Internet link down 1. Stores Manager Waits until internet and server are recovered 4a) No Personal Inventory Sheet is available in the system 1. Stores Manager inserts new SRV using use case UC9 9a) Printer is not available 1. System prompts error 2. Stores Manager may select pdf option and print in pdf format.
<b>Frequency</b>	Could be nearly continuous



### 2.10 Domain Model

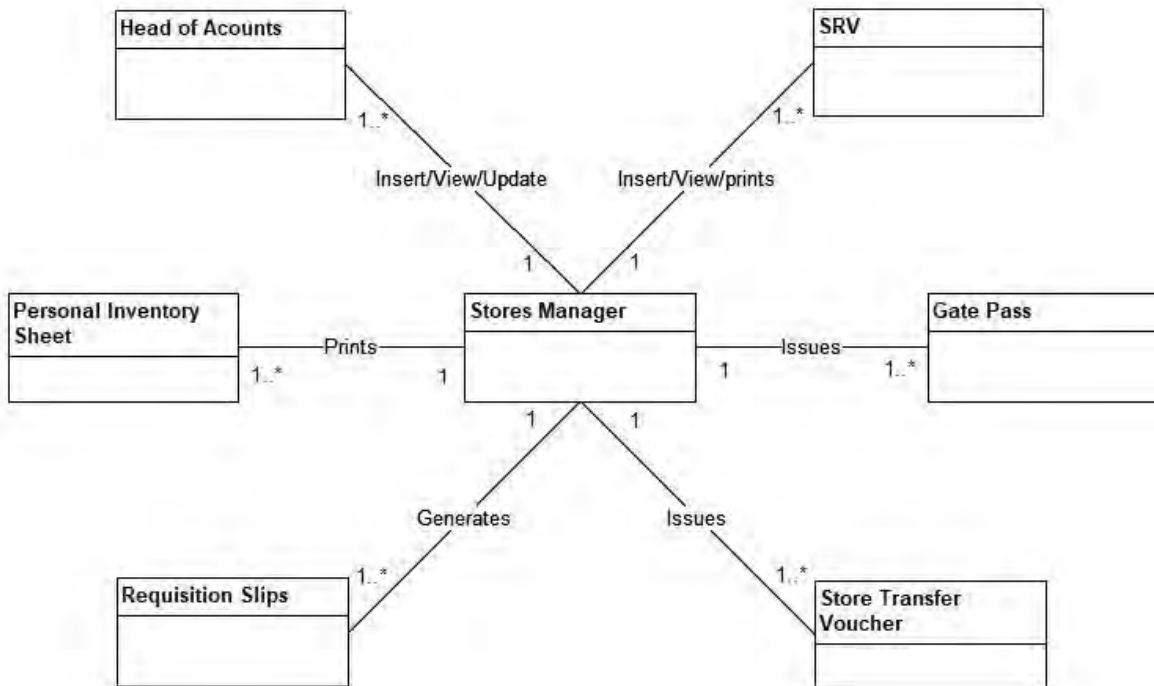
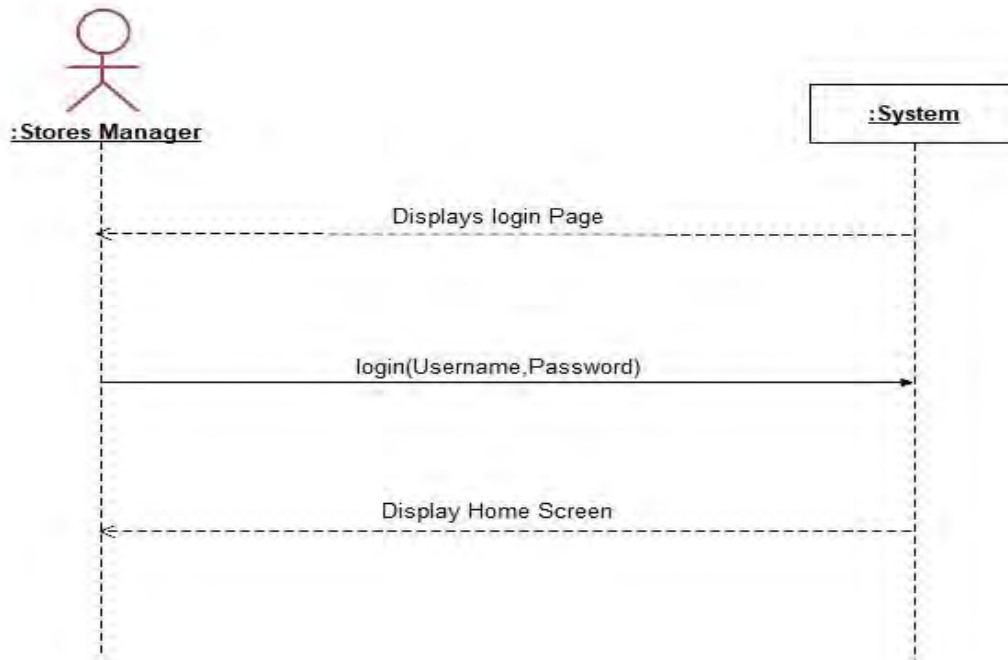


Figure 6 Domain Model

## 2.11 System Sequence Diagrams

System Sequence Diagrams of the use cases described before are as follows.

### 2.11.1 Login



**Figure 7 Login SSD**

2.11.2 Logout

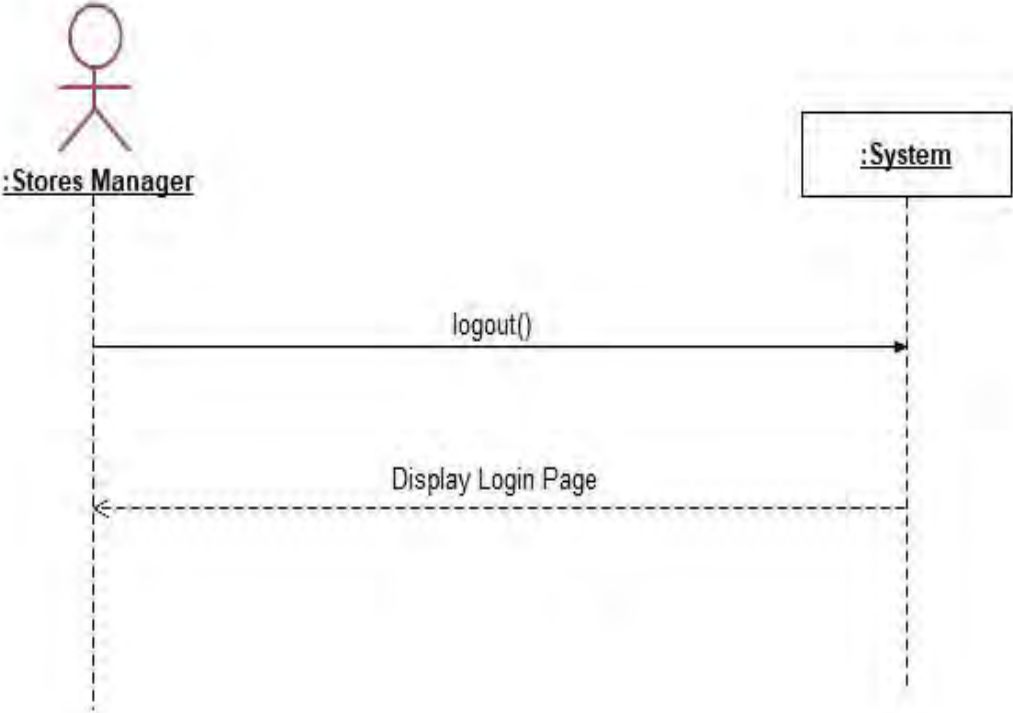
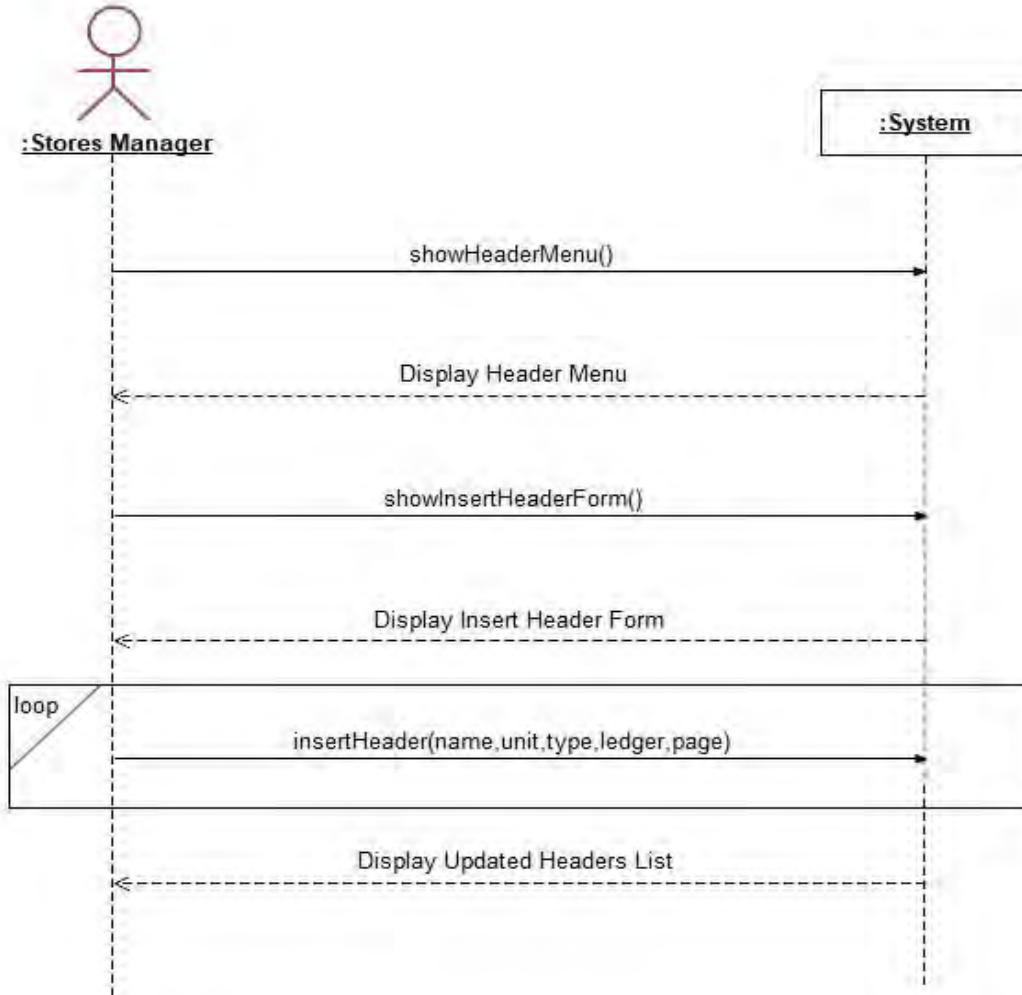


Figure 8 Logout SSD

### 2.11.3 Insert Header Info



**Figure 9 Insert Header Info SSD**

### 2.11.4 View Header Details

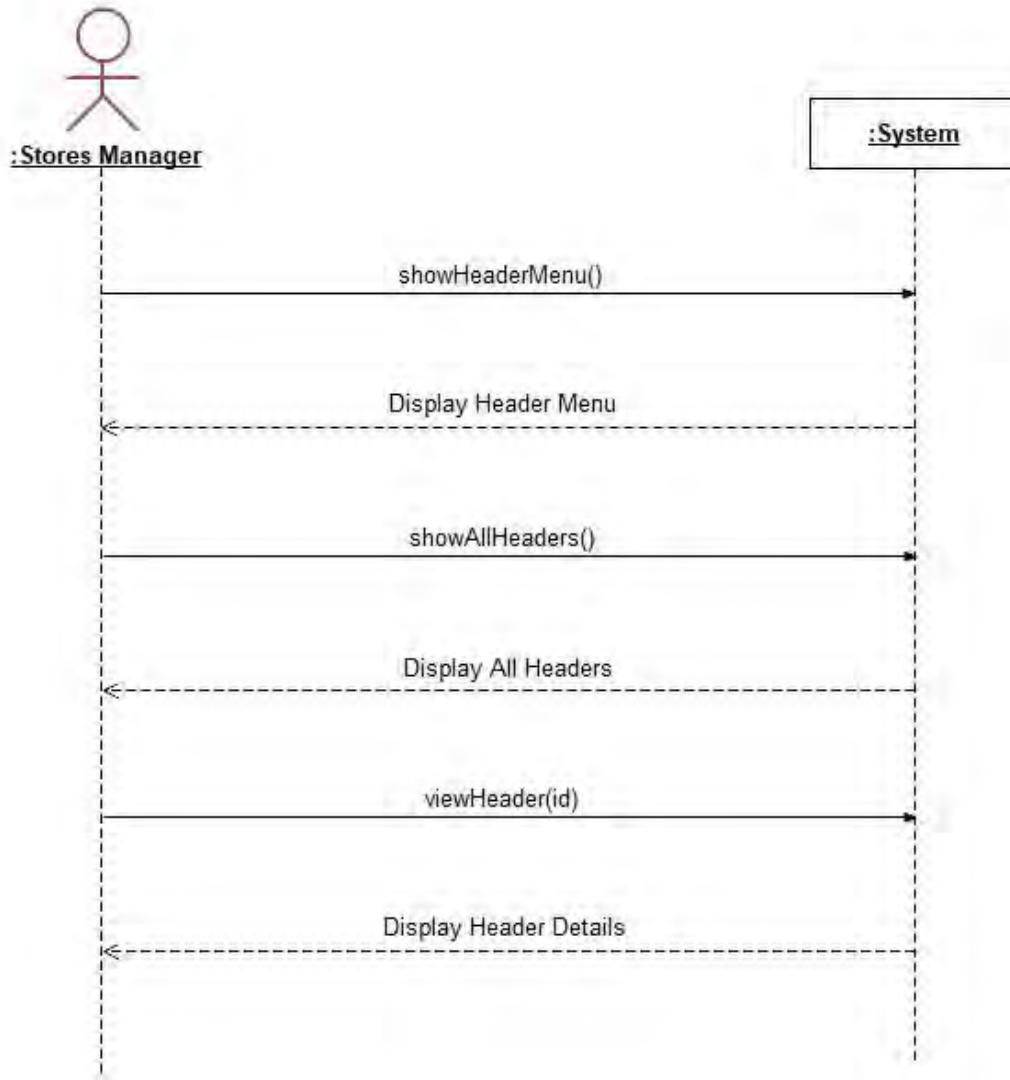


Figure 10 View Header Details SSD

### 2.11.5 Edit Header

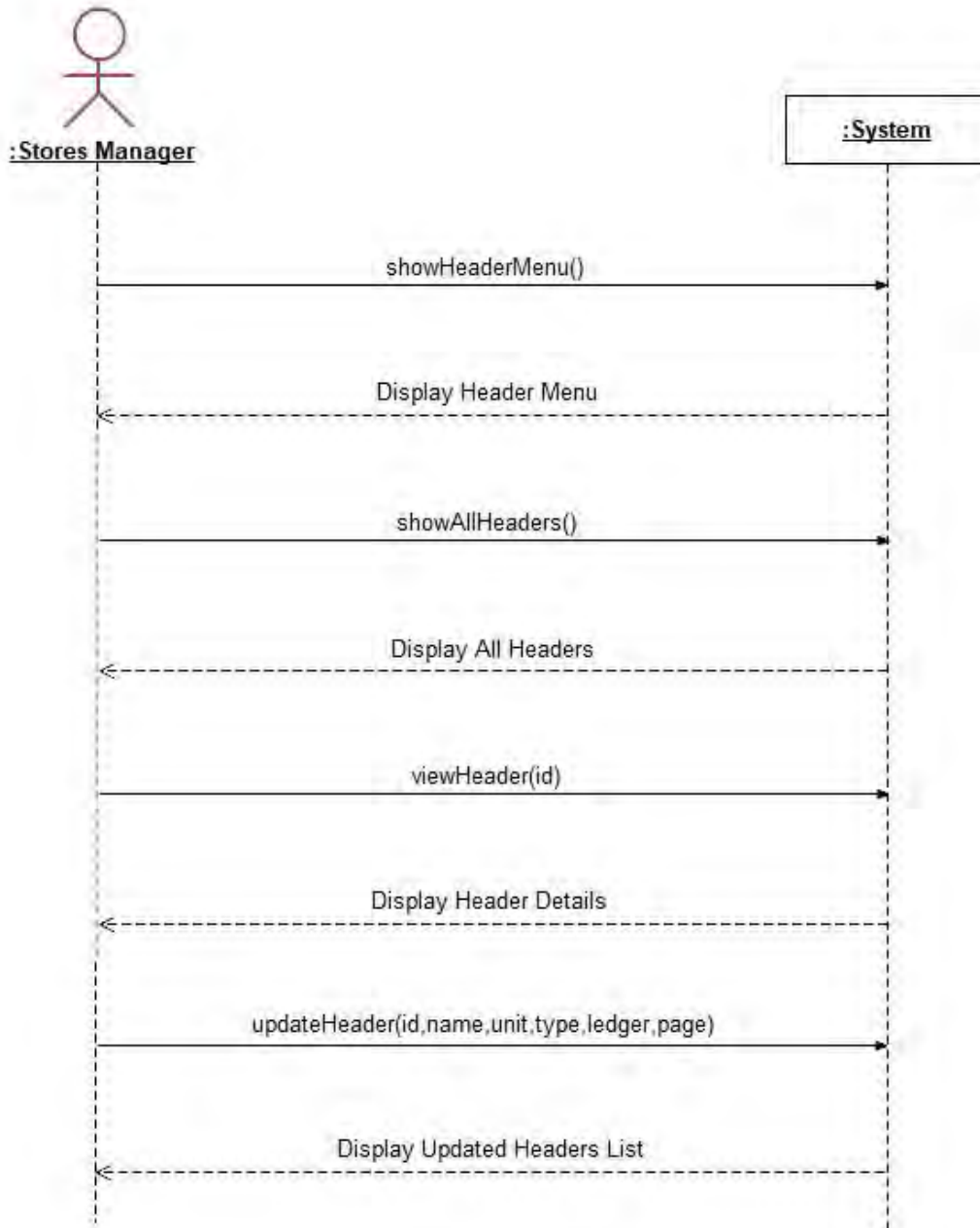


Figure 11 Edit Header SSD

### 2.11.6 Insert SRV

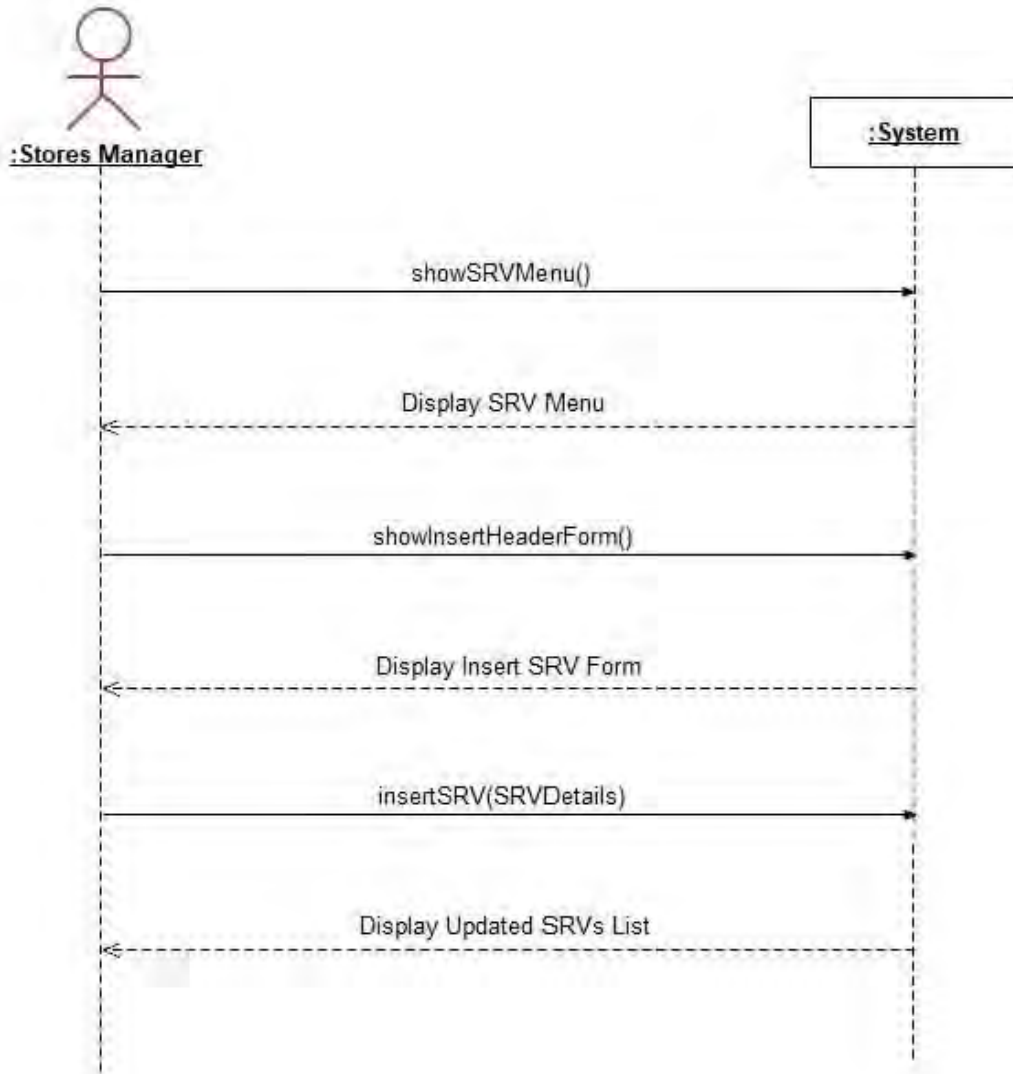


Figure 12 Insert SRV SSD

2.11.7 View SRV

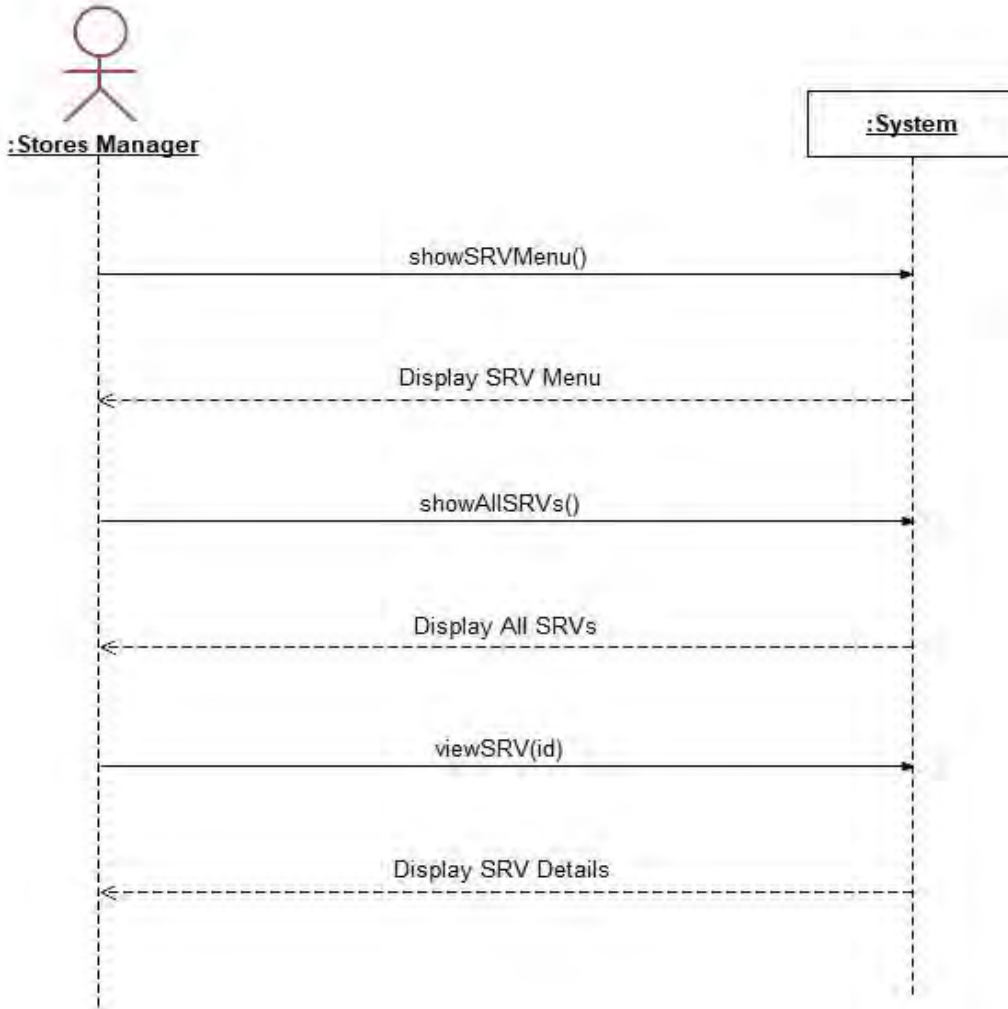
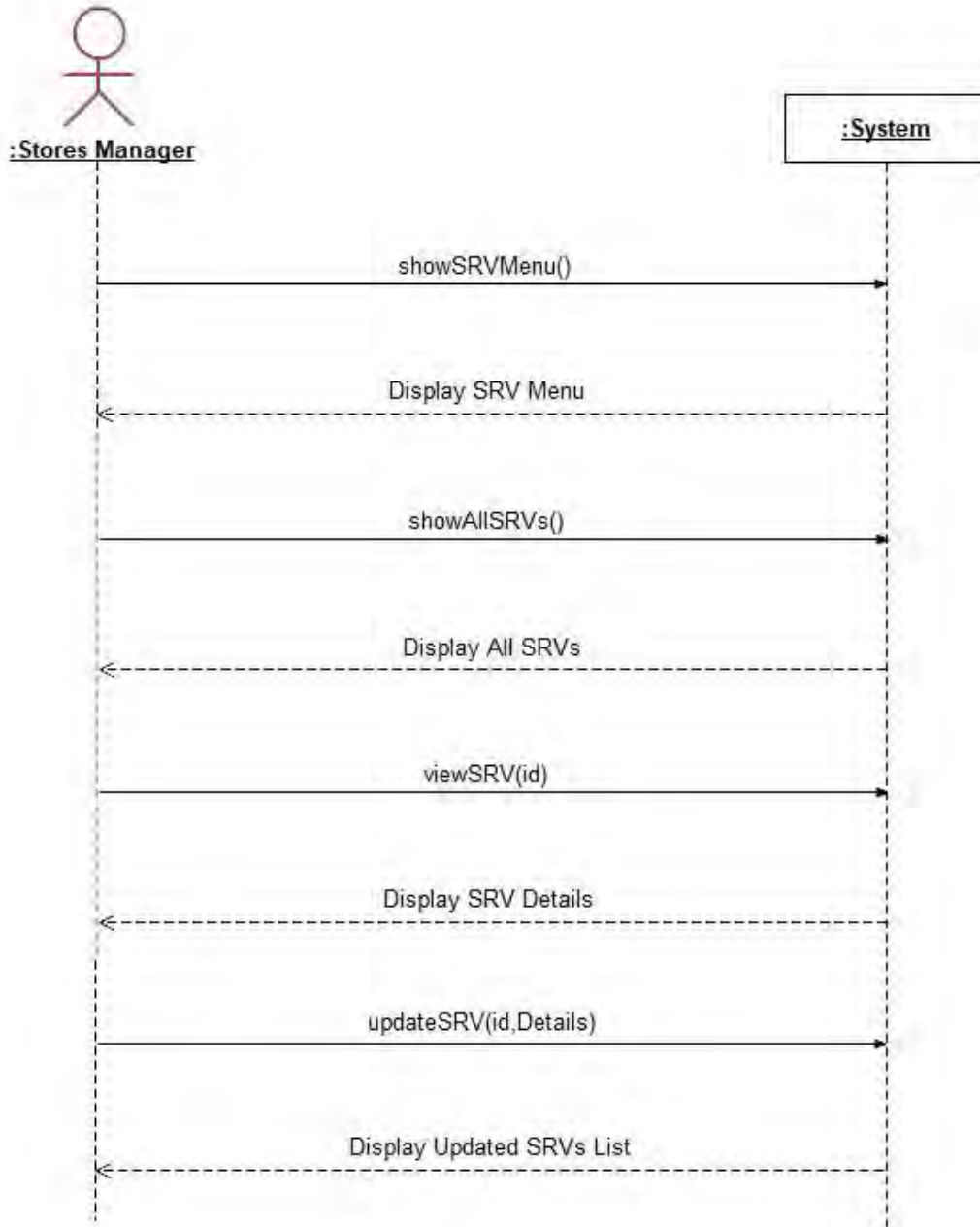


Figure 13 View SRV SSD

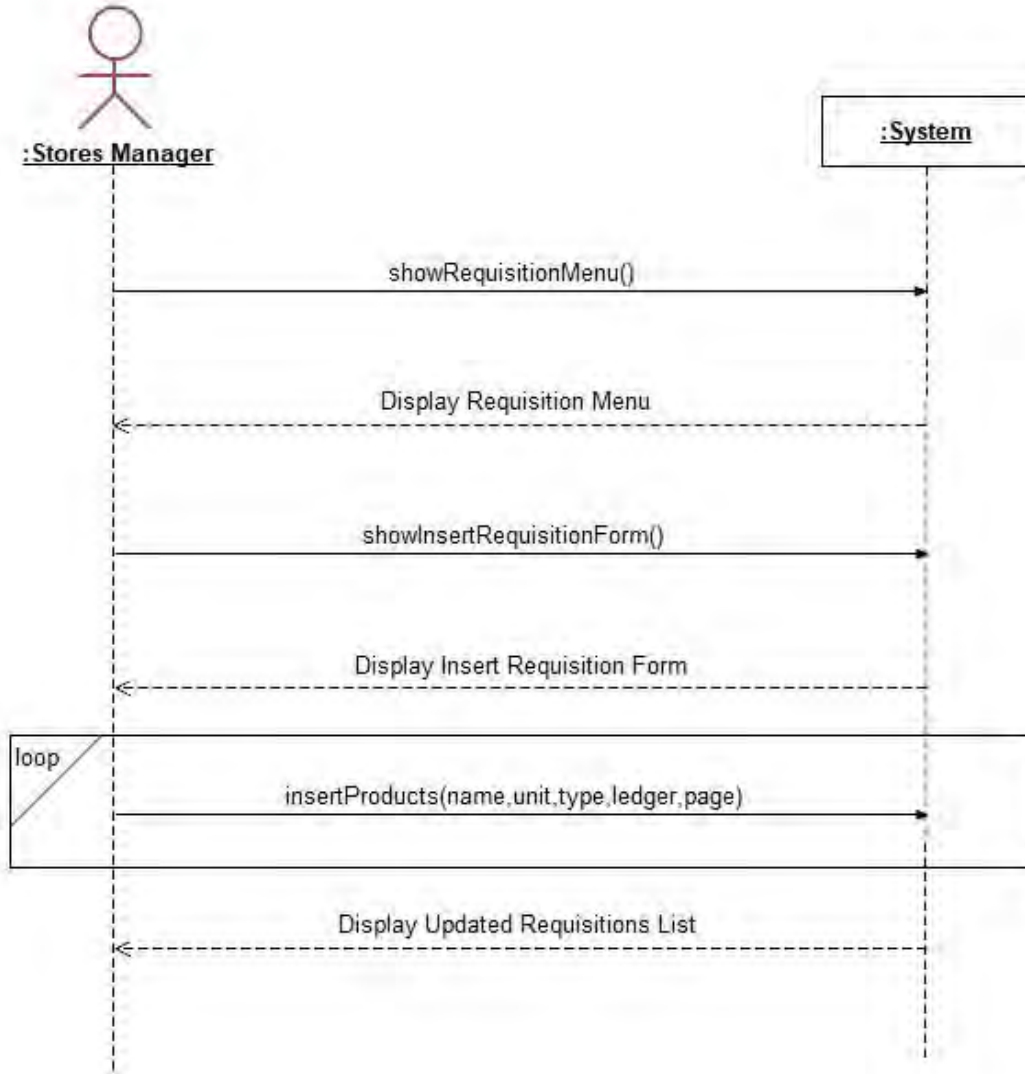


### 2.11.8 Update SRV



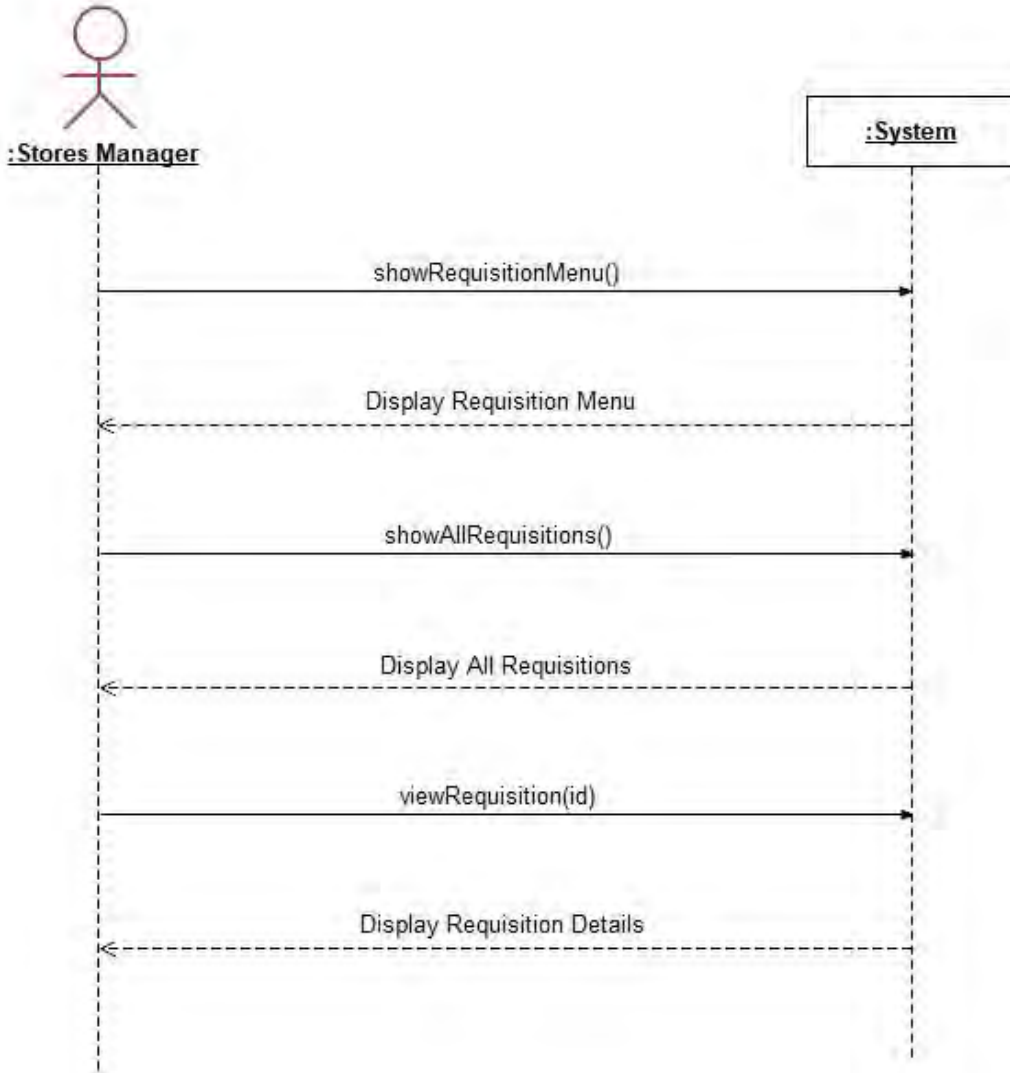
**Figure 14 Update SRV SSD**

### 2.11.9 Insert Requisition



**Figure 15 Insert Requisition SSD**

### 2.11.10 View Requisition



**Figure 16 View Requisition SSD**

### 2.11.11 Insert Return Note

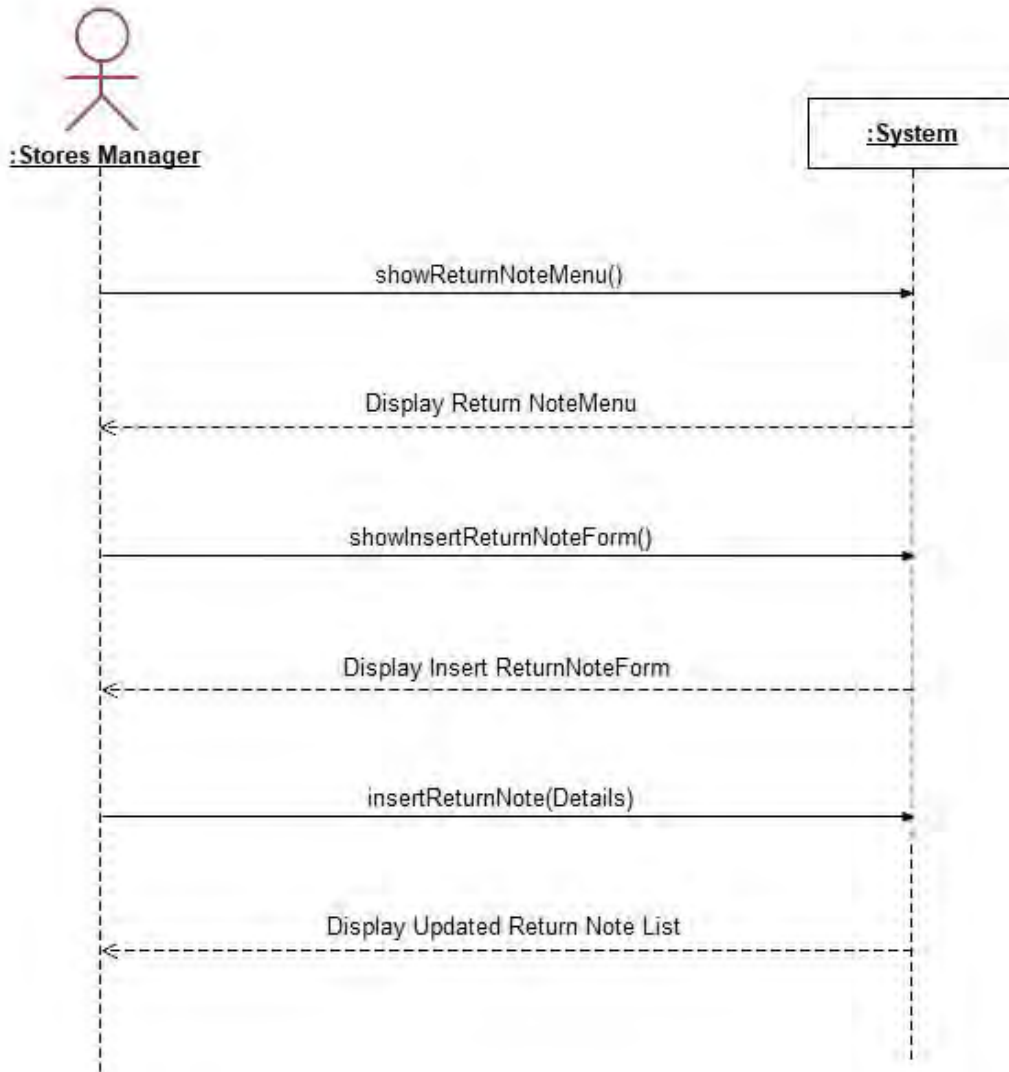


Figure 17 Insert Return Note SSD

2.11.12 View Return Note

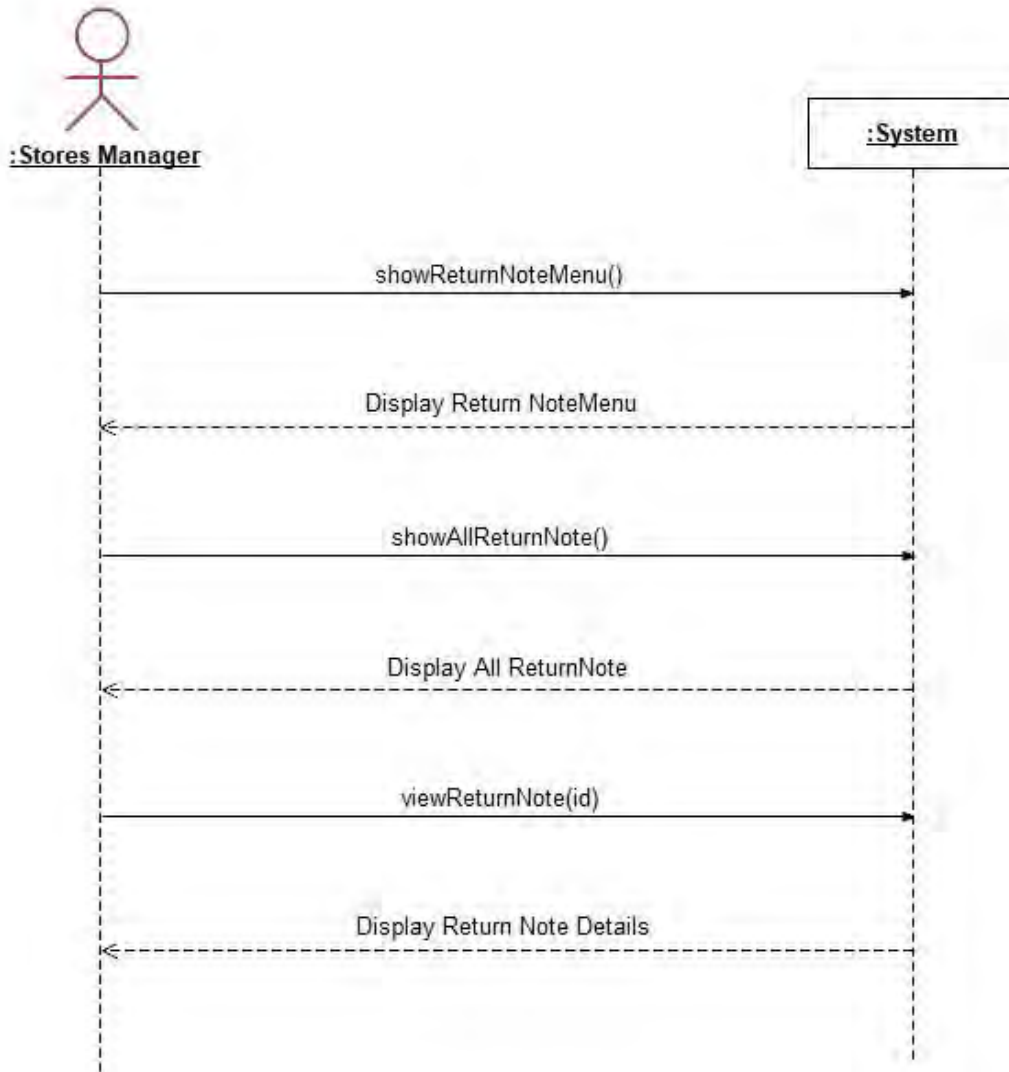
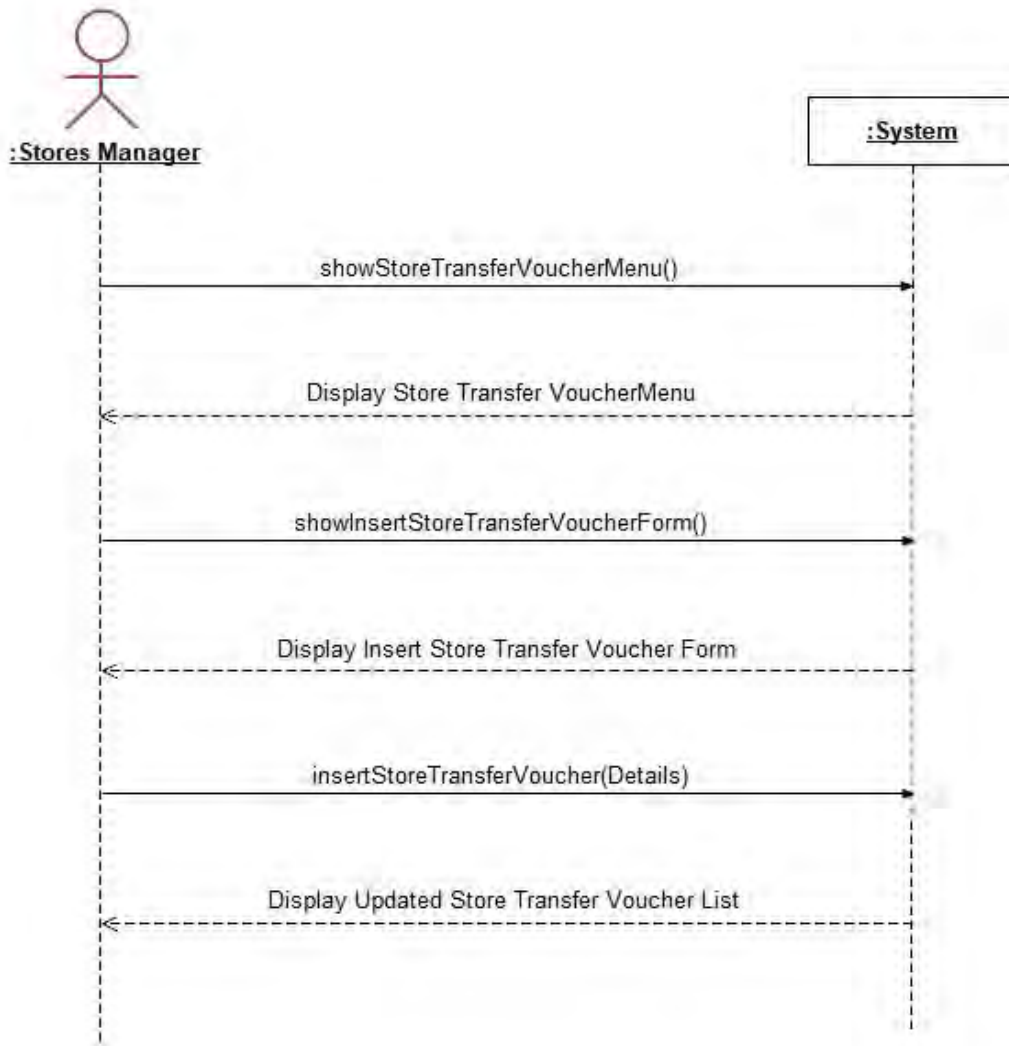


Figure 18 View Return Note SSD

### 2.11.13 Insert STV



**Figure 19 Insert STV SSD**

### 2.11.14 Insert Gate Pass

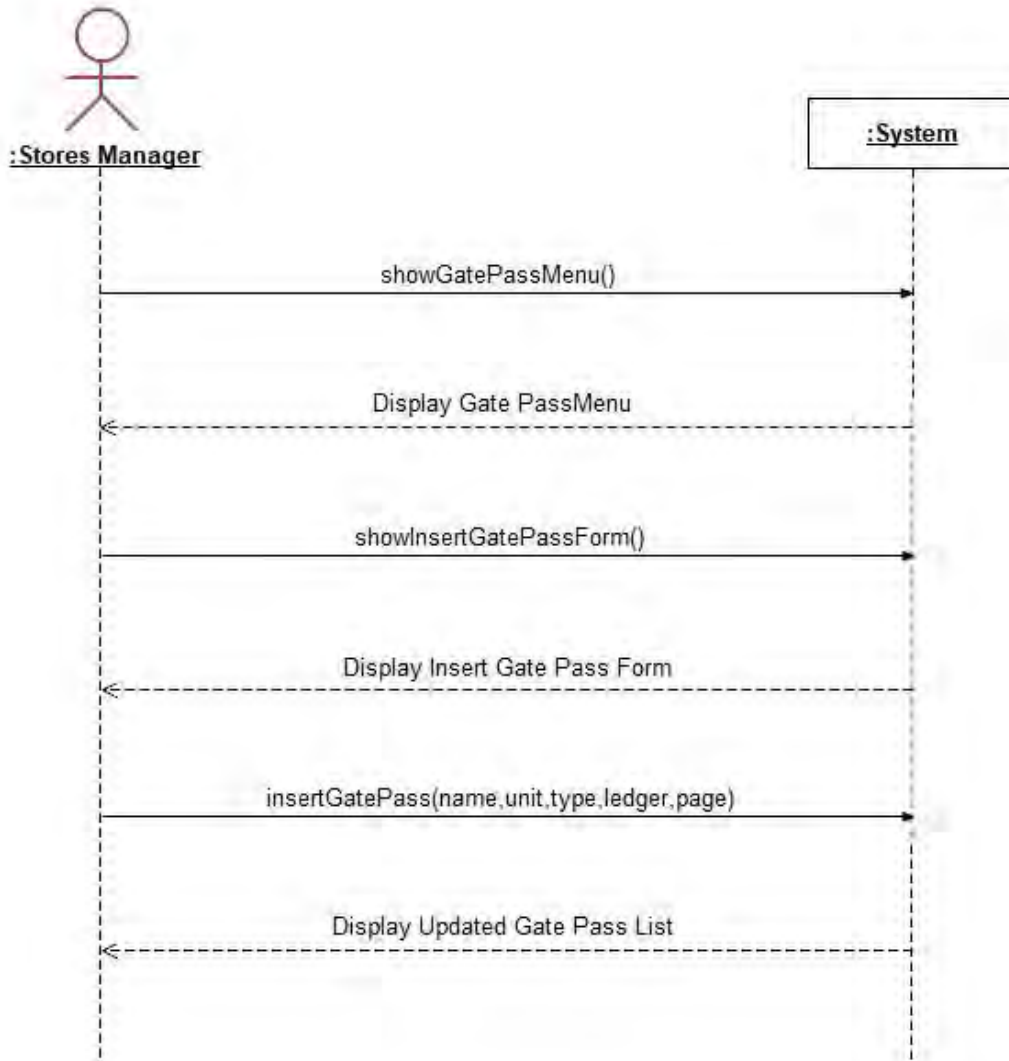
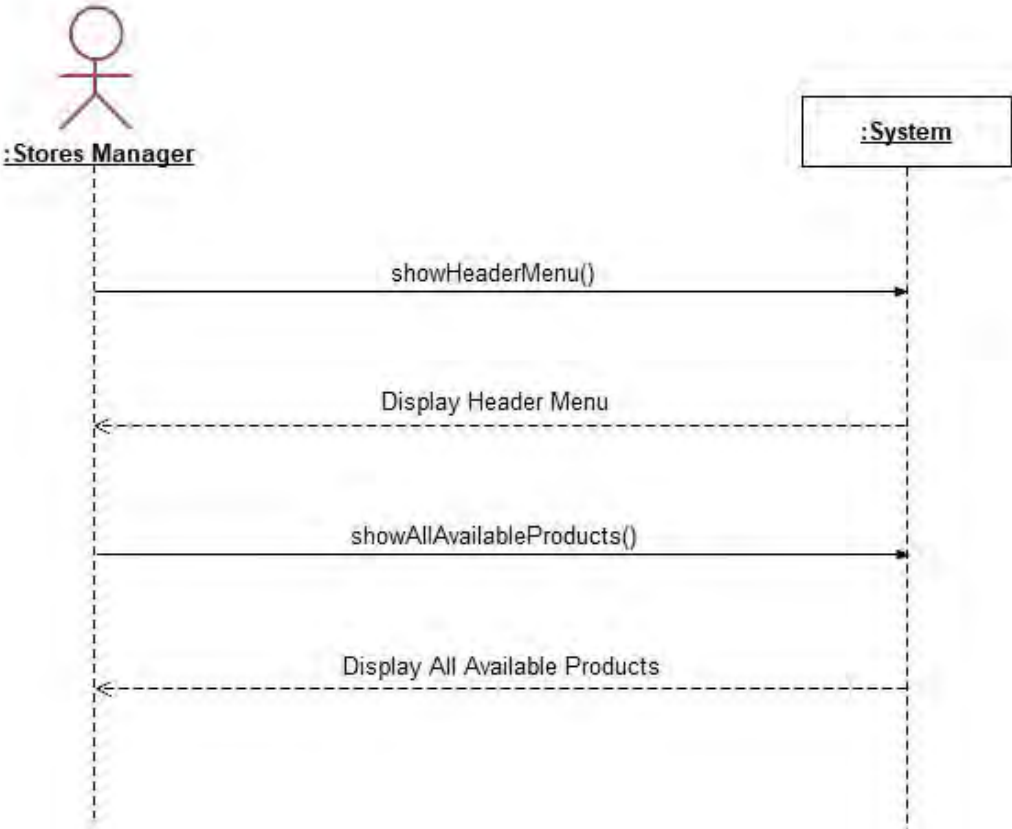


Figure 20 Insert Gate Pass SSD

**2.11.15 View Available Products**



**Figure 21 View Available Products SSD**



### 2.11.16 Print SRV

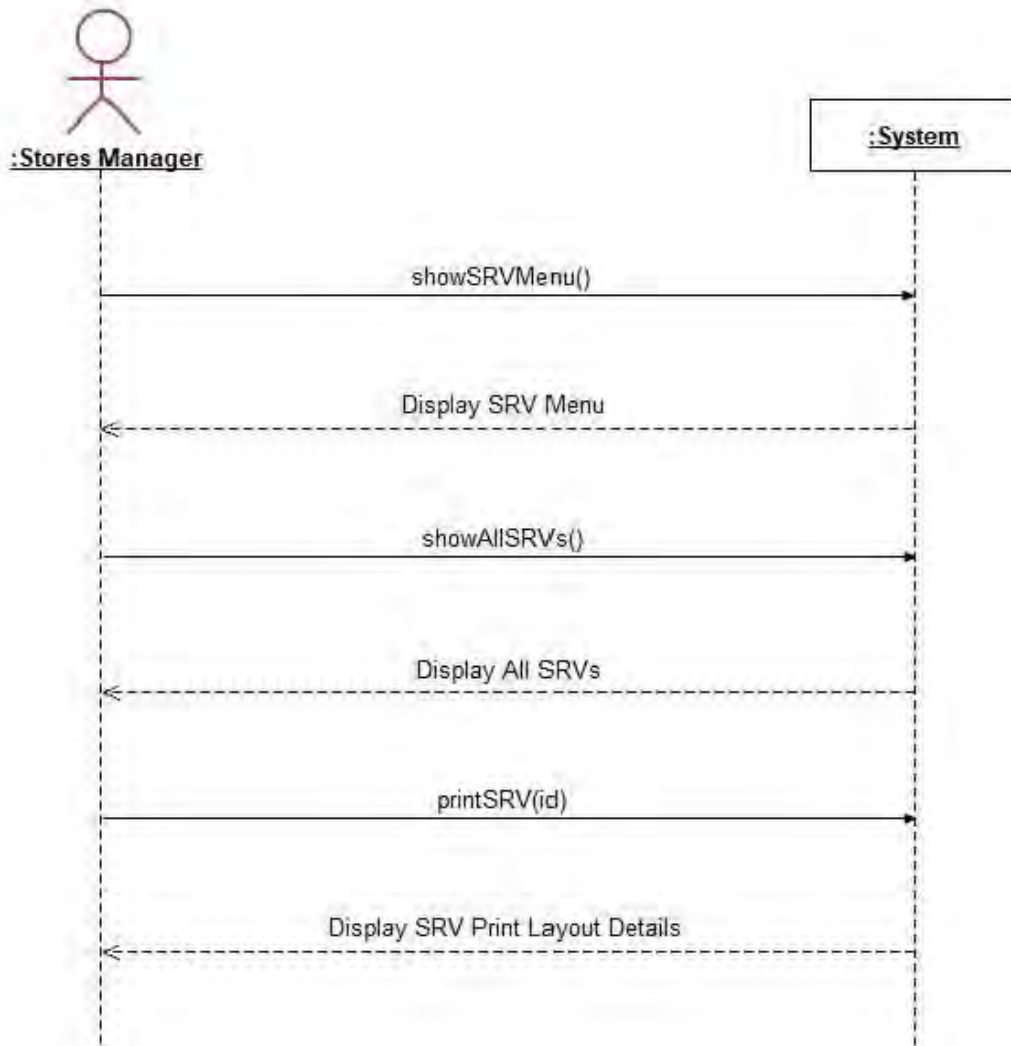


Figure 22 Print SRV SSD

### 2.11.17 Print Personal Inventory Sheet

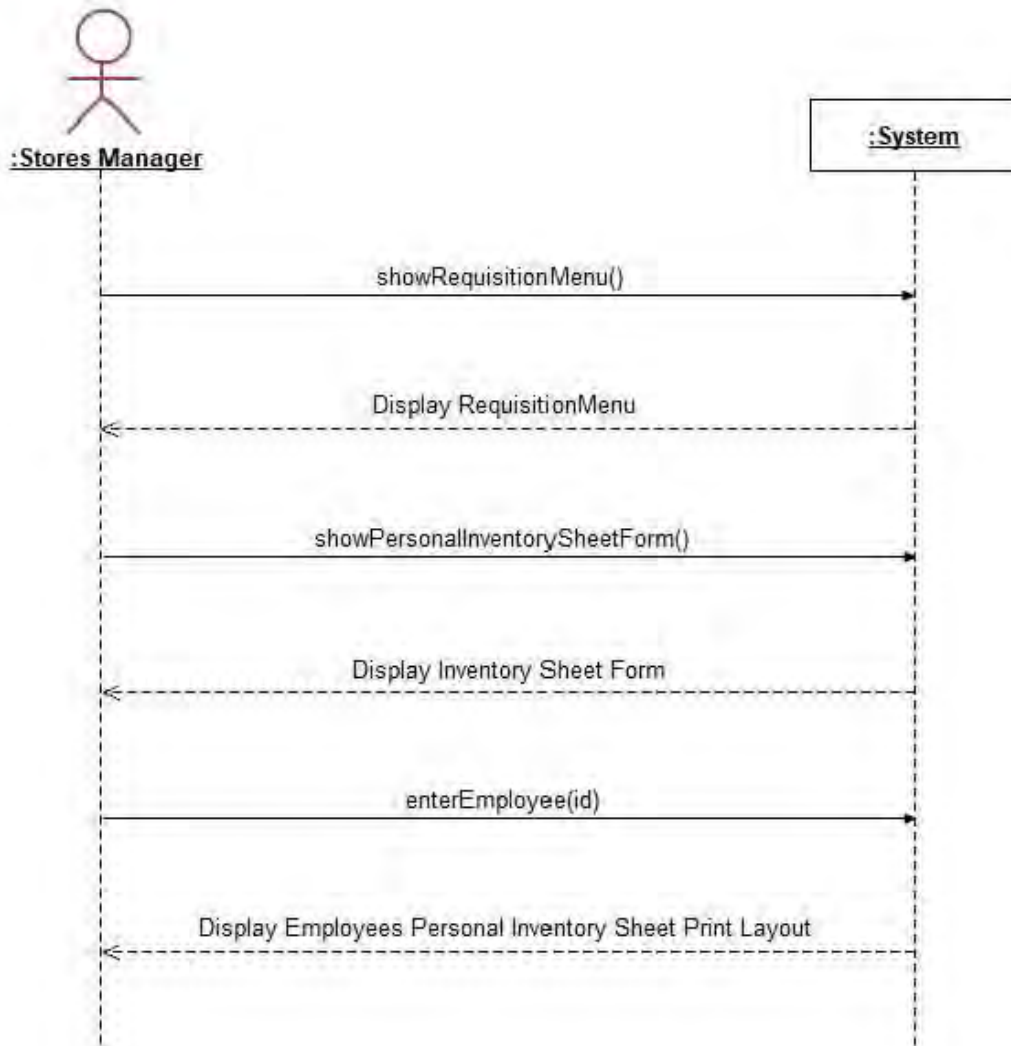


Figure 23 Print Personal Inventory Sheet

## 2.12 Entity Relationship Diagram (ERD)

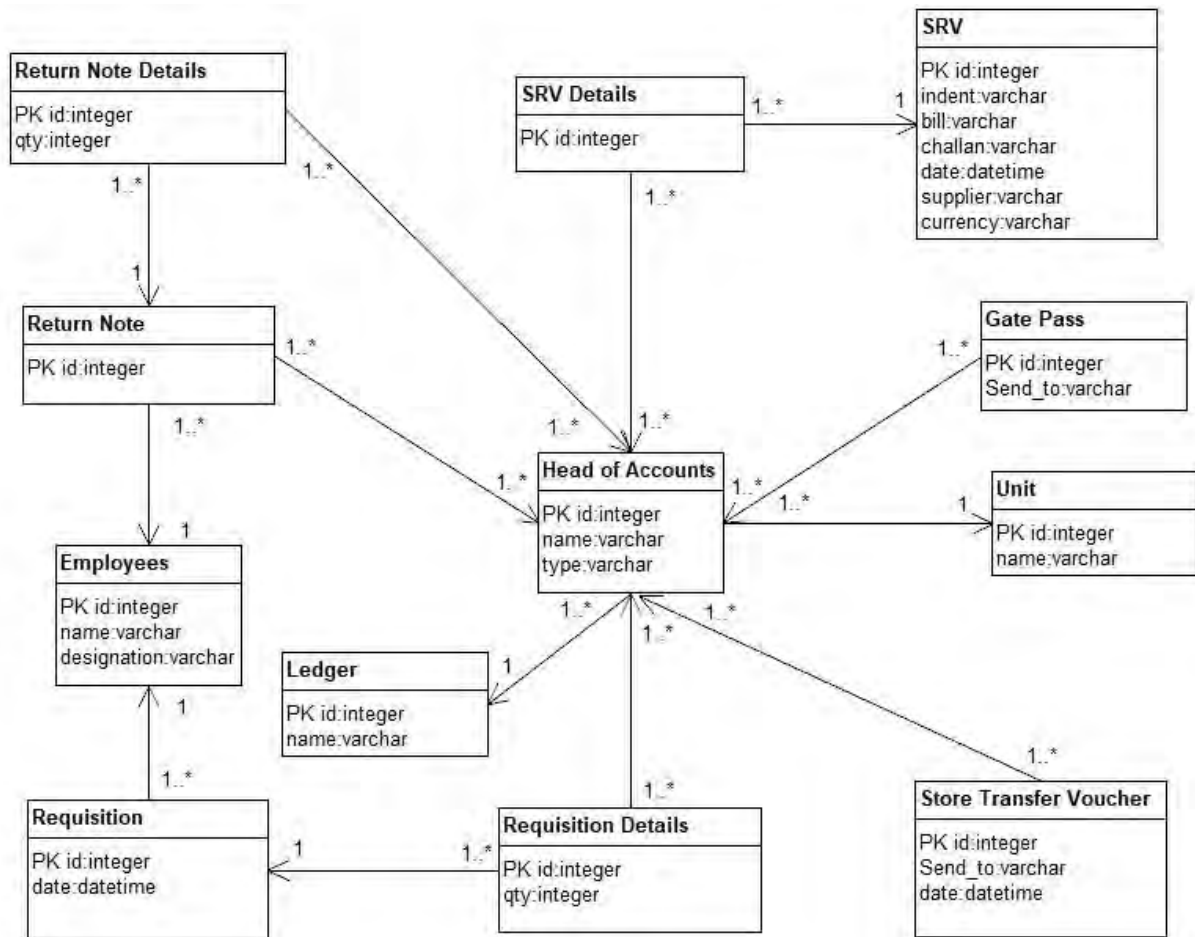


Figure 24 ERD

## 2.13 Overview

This chapter described the functional requirements i.e. use cases and their flow i.e. system sequence diagrams. Also it describes the skeleton of our database that how it would look like when implemented and what would be the relationship among the entities in the form of entity relationship diagram (ERD).

# **Chapter 3**

# **Software Design Description**

### 3.1 Introduction

This chapter will initially describe the complete description of the software design. It then elaborates the architectural design and then description of the components of the system. Finally, it will describe the user interface design and interaction diagrams such as system sequence and class diagrams.

Software Design Description (SDD) is the representation of a software design which is used for communicating design information of a system to all the stake holders. It shows how the software system will be structured to satisfy the requirements.

### 3.2 System Architecture Design

Architectural design defines the relationship between major structural elements of the software. It defines the design patterns that can be used to satisfy the requirements that have been defined for the system. Architecture used will be three-tier architecture i.e.

- a) Interface
- b) Application Logic
- c) Technical Services

Interfaces are user interfaces for employee's interfaces, Store Manager Interface, Director Interface. Application logic has the actual Classes and their main operation and in technical services layer database is present. Application logic and the database are actually hidden from the all users. They can access it using application logic.

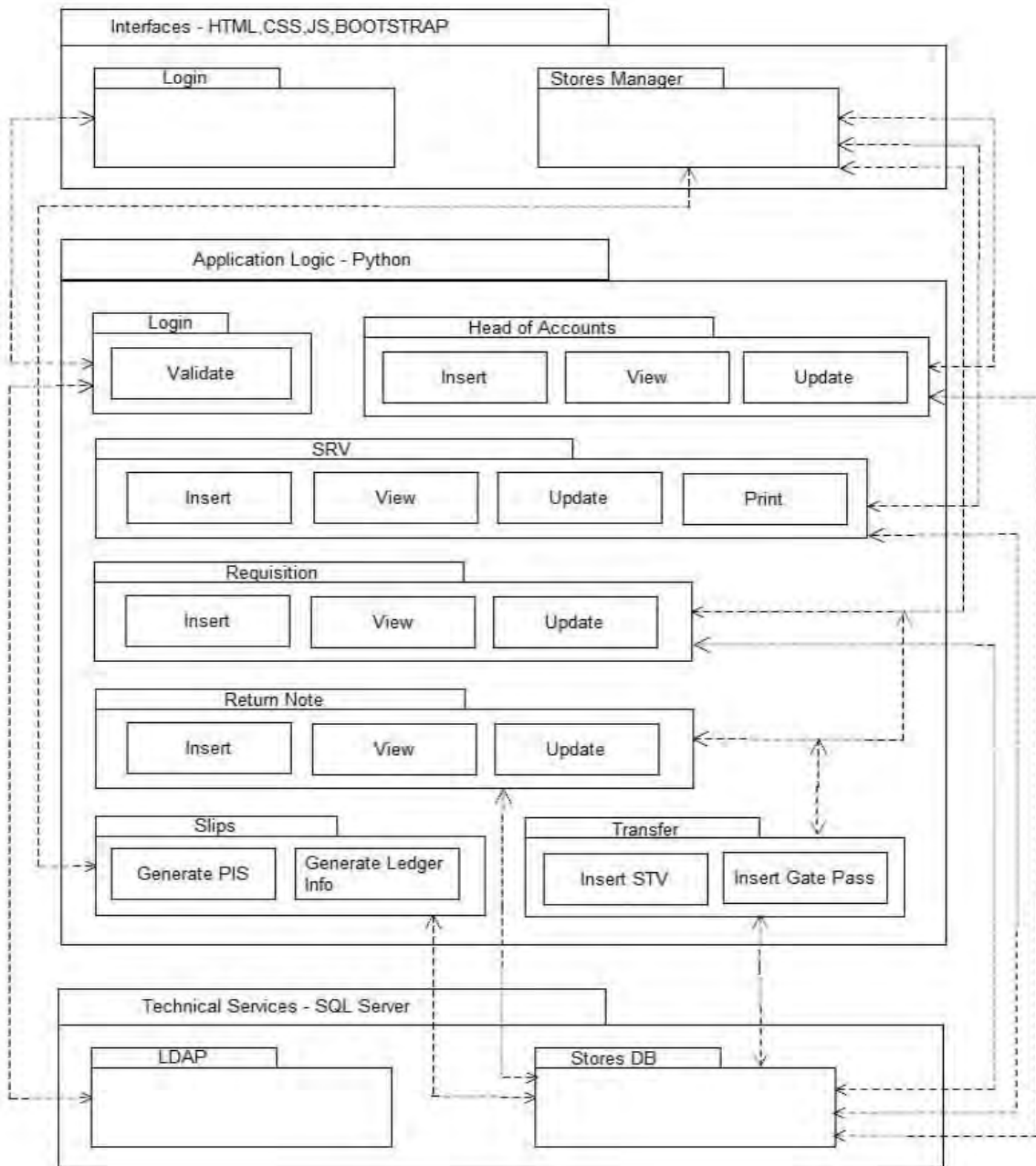


Figure 25 Architecture Diagram

### 3.3 User Interface Design

User interface design establishes effective communication between a user and a computer. And it gives basic idea of about how the actual application would work.

#### 3.3.1 Login Interface

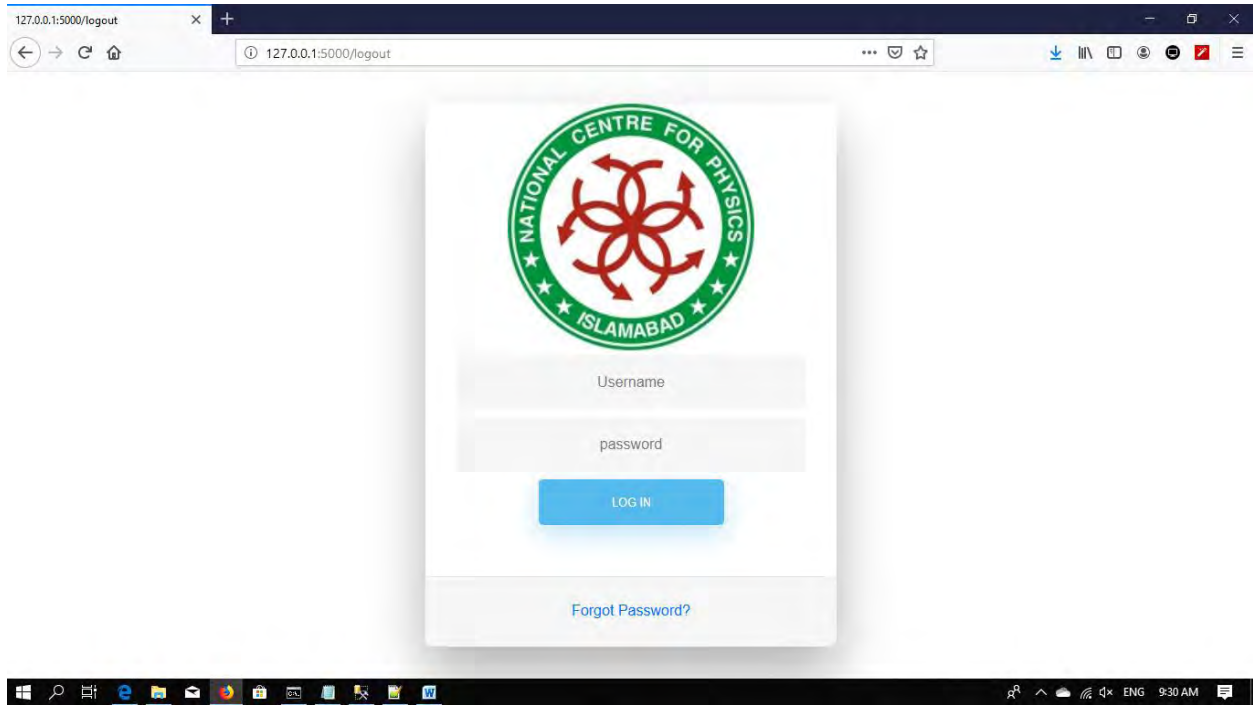


Figure 26 Login Interface

### 3.3.2 Dashboard Interface

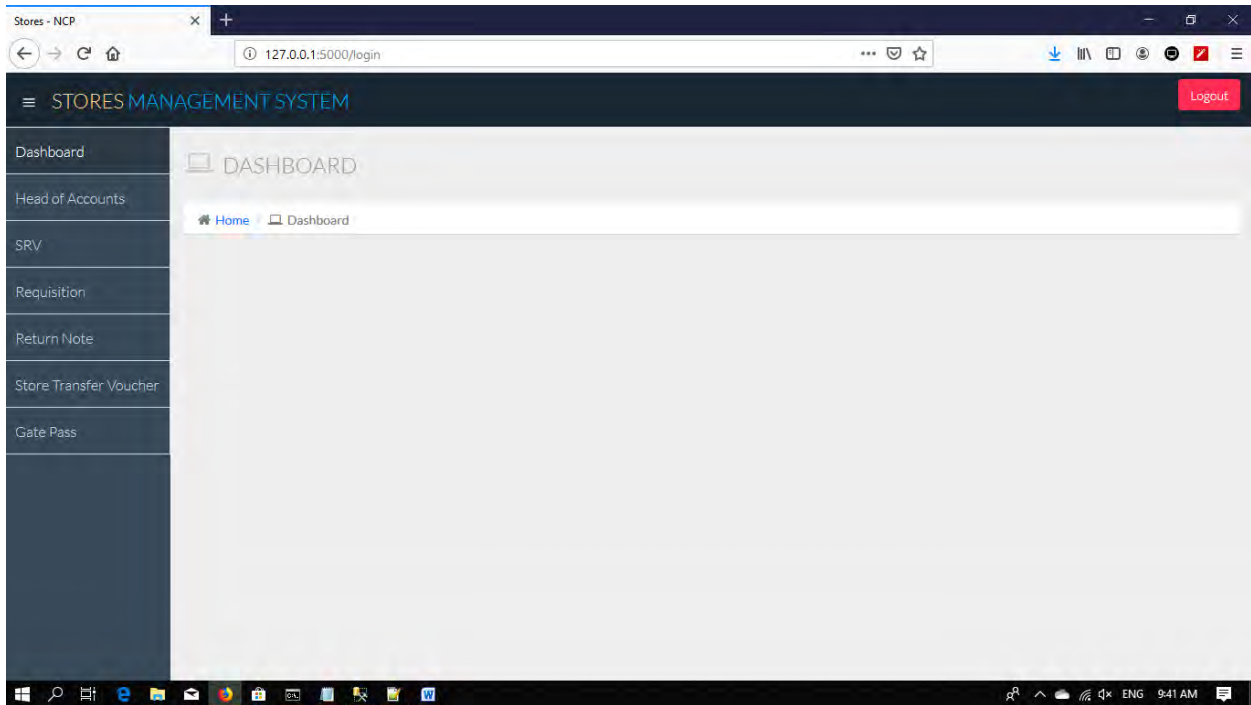


Figure 27 Dashboard Interface

### 3.3.3 Insert Header Interface

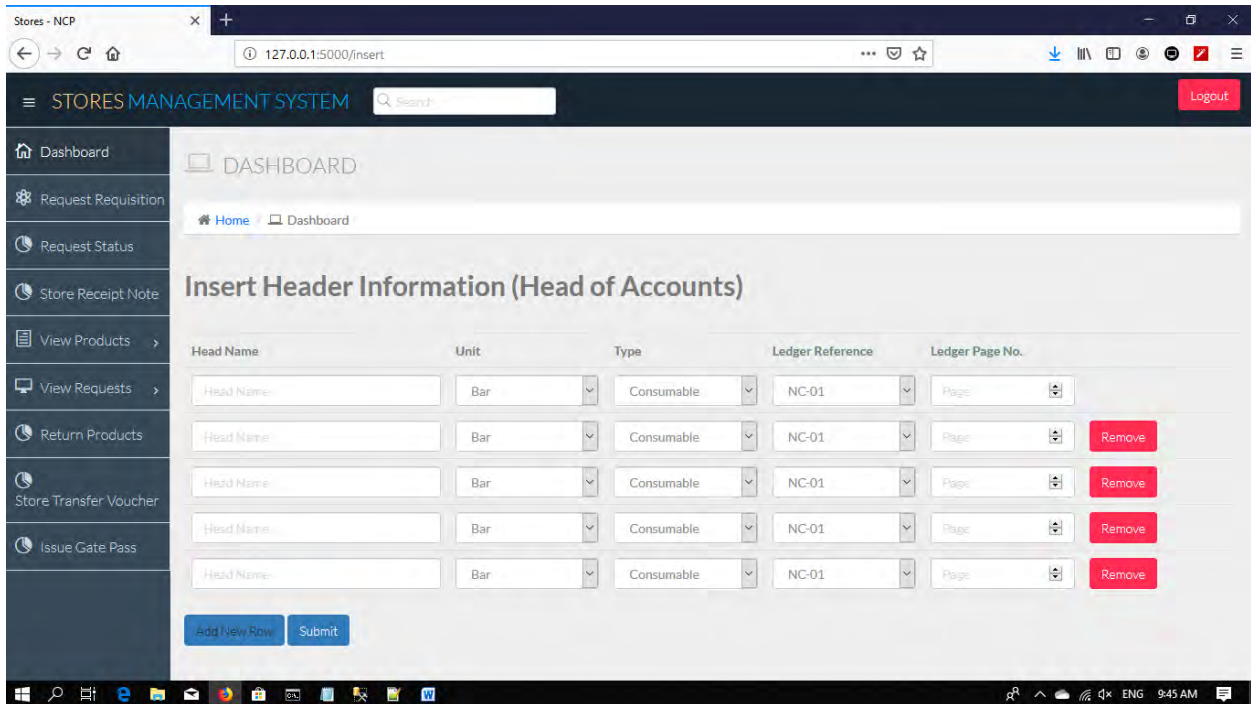


Figure 28 Insert Header Interface



### 3.3.4 View Header Interface SRV

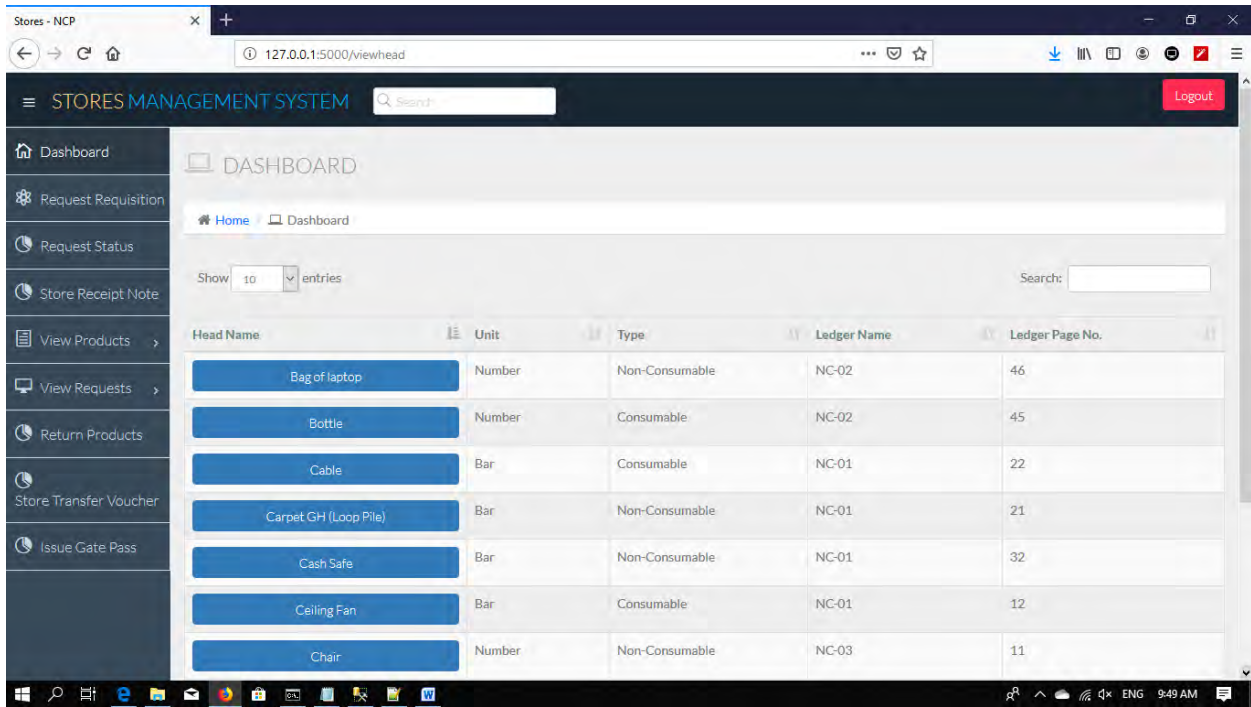


Figure 29 View Header Interface

### 3.3.5 Edit Header Interface

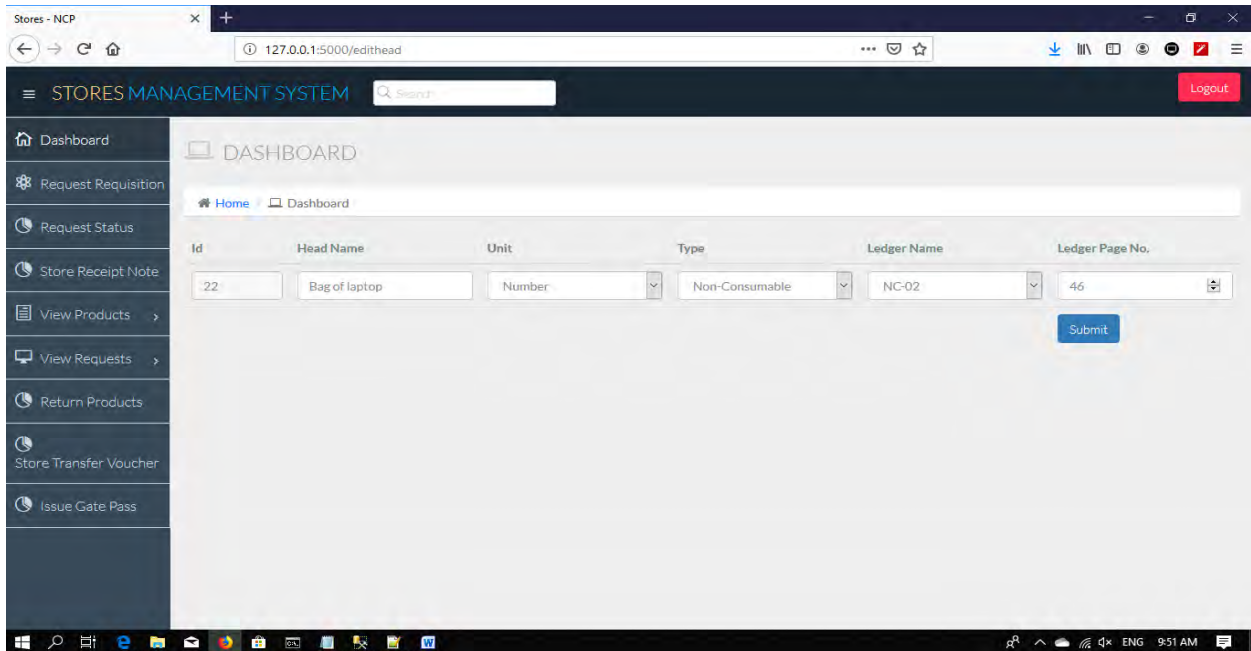


Figure 30 Edit Header Interface

### 3.3.6 Insert SRV Interface

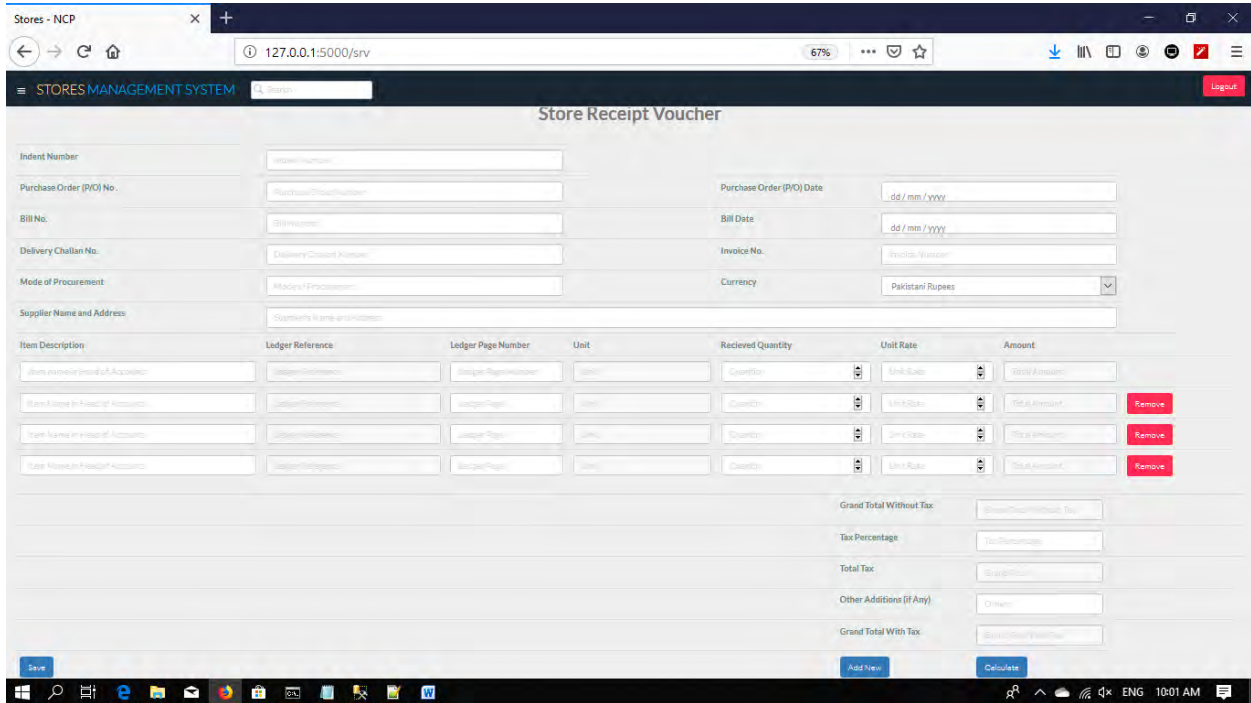


Figure 31 Insert SRV Interface

### 3.3.7 View SRV Interface

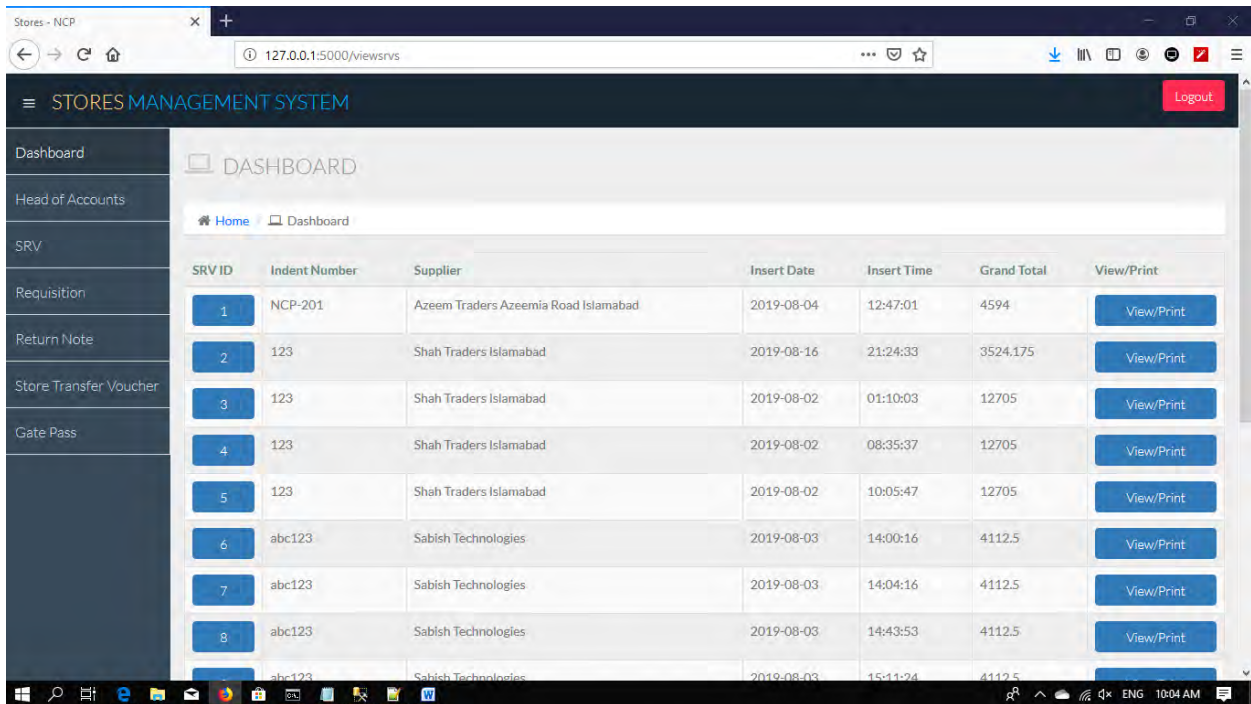


Figure 32 Return Product Interface

### 3.3.8 Update SRV Interface

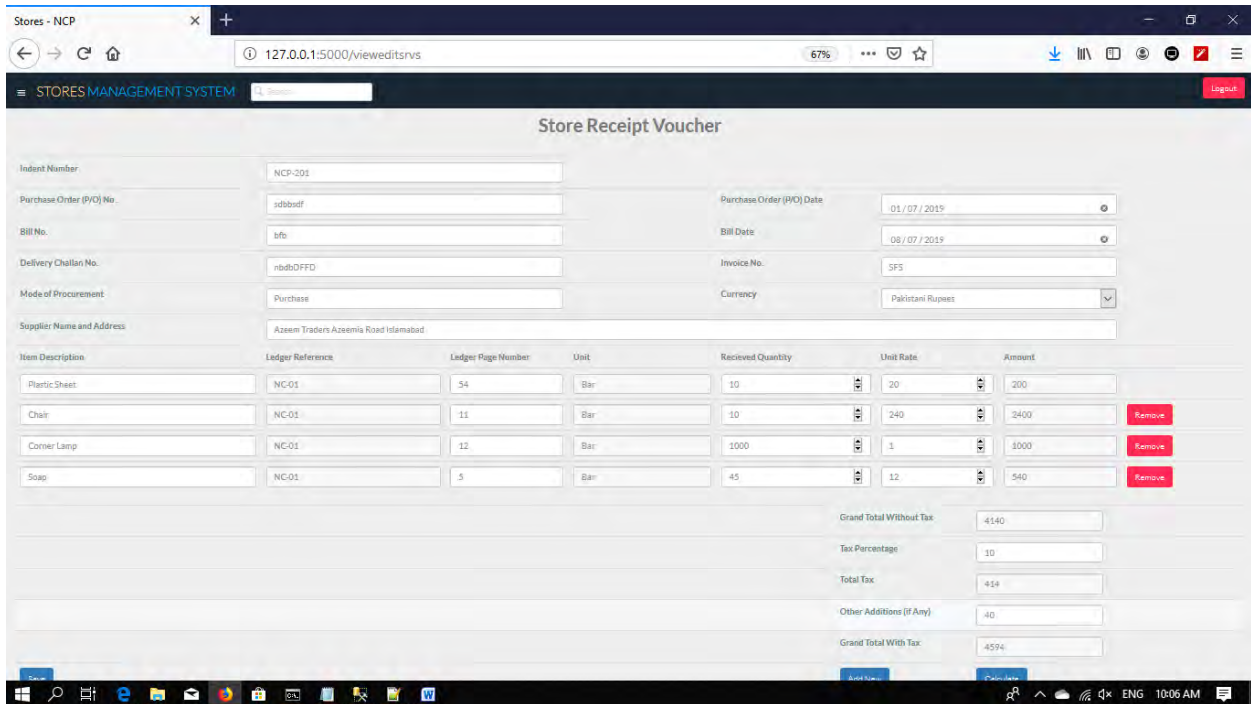


Figure 33 Update Interface

### 3.3.9 Insert Requisition Interface

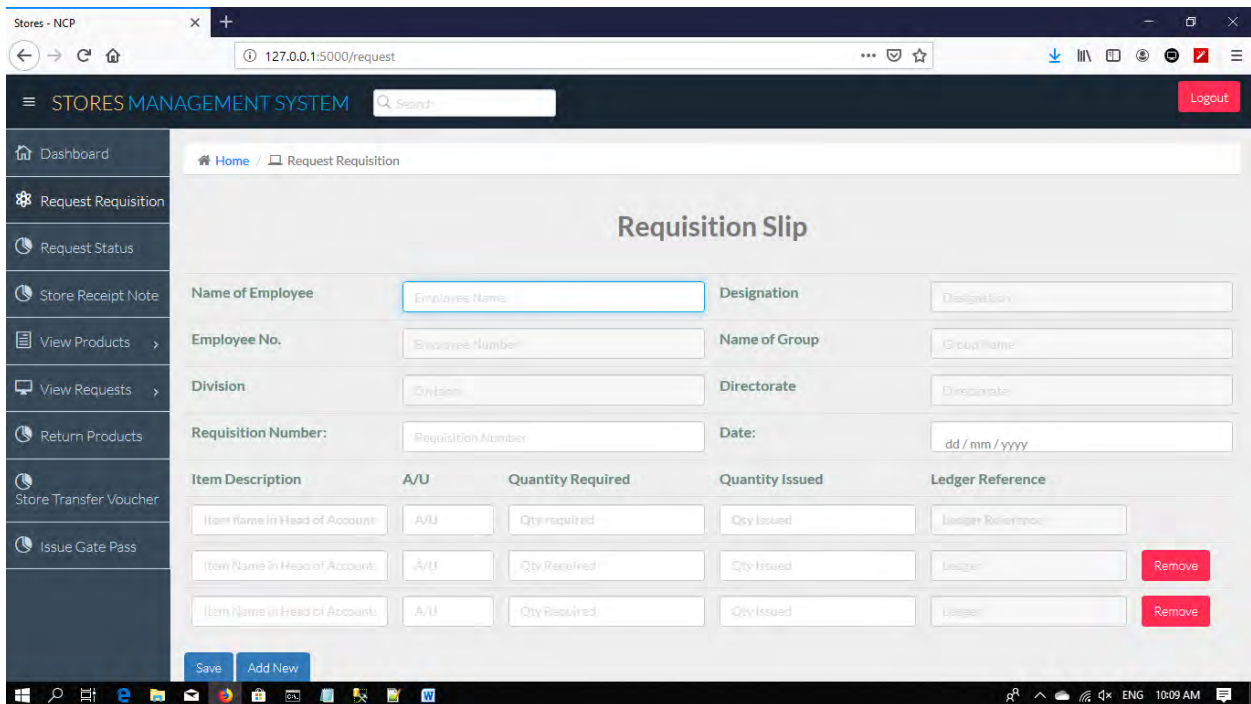


Figure 34 Insert Requisition Interface

### 3.3.10 Return Note Interface

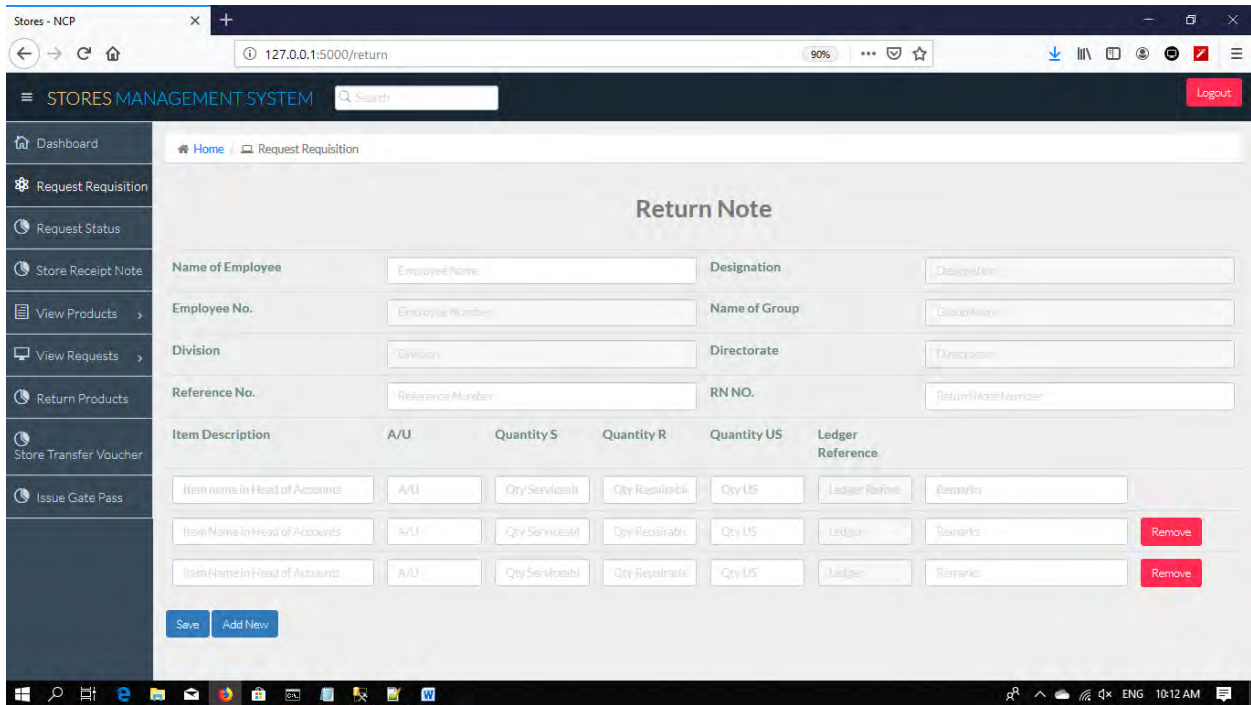


Figure 35 Return Note Interface

### 3.3.11 View Available Interface

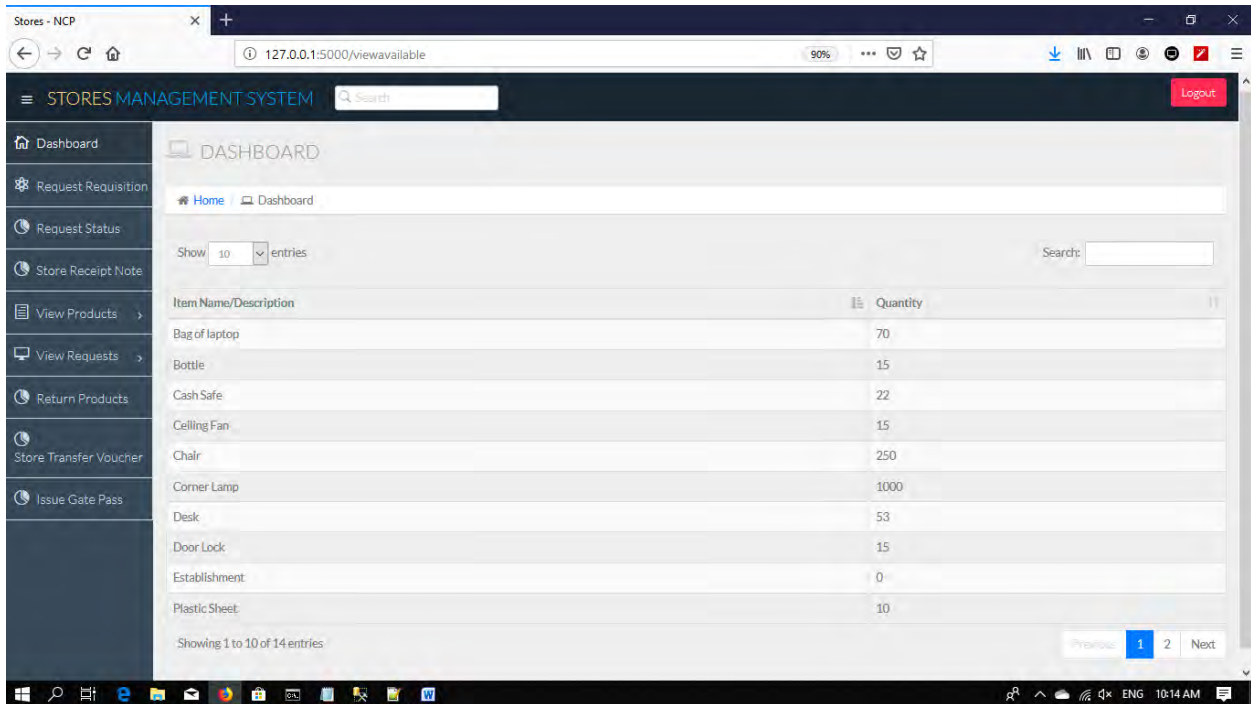


Figure 36 View Available Interface

### 3.4 Sequence Diagrams

Sequence diagrams for the project which describe the sequence of working in classes are as follows

#### 3.4.1 Sequence diagram Head

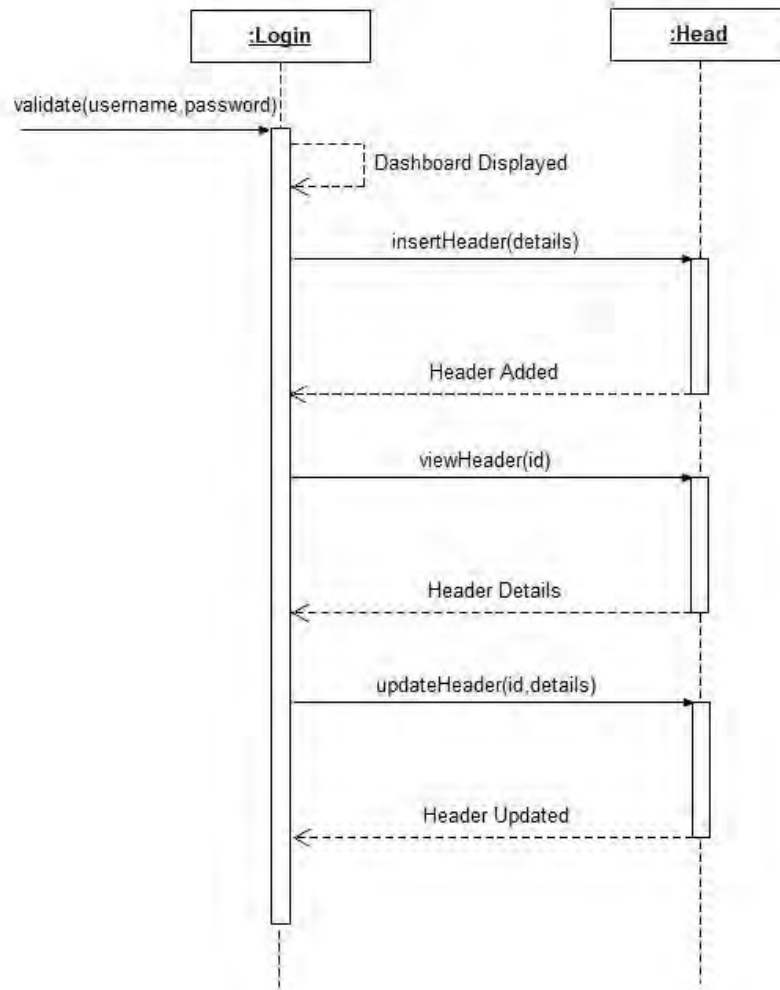


Figure 37 Head Sequence Diagram

### 3.4.2 Sequence Diagram SRV

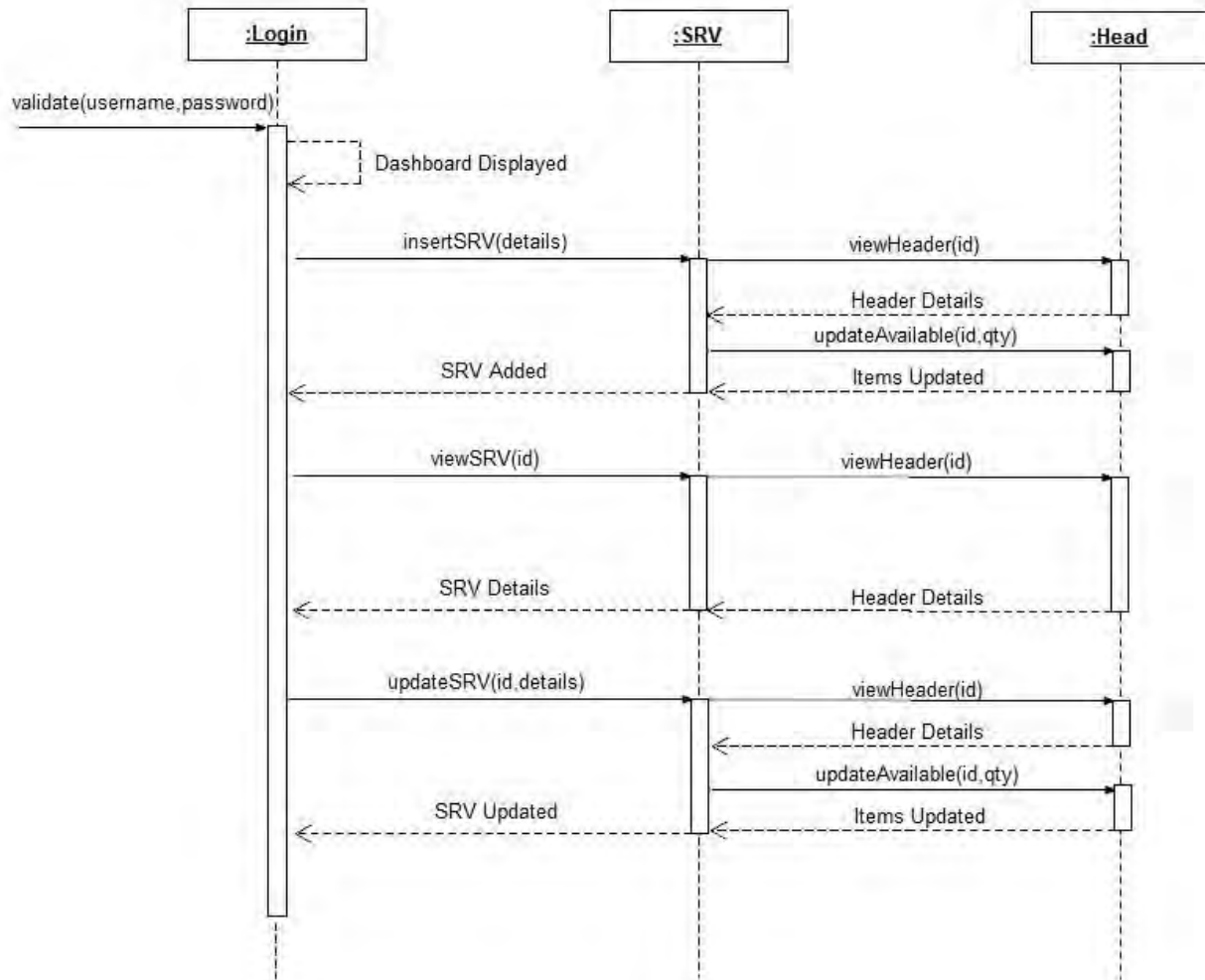


Figure 38 SRV Sequence Diagram

### 3.4.3 Sequence Diagram Requisition

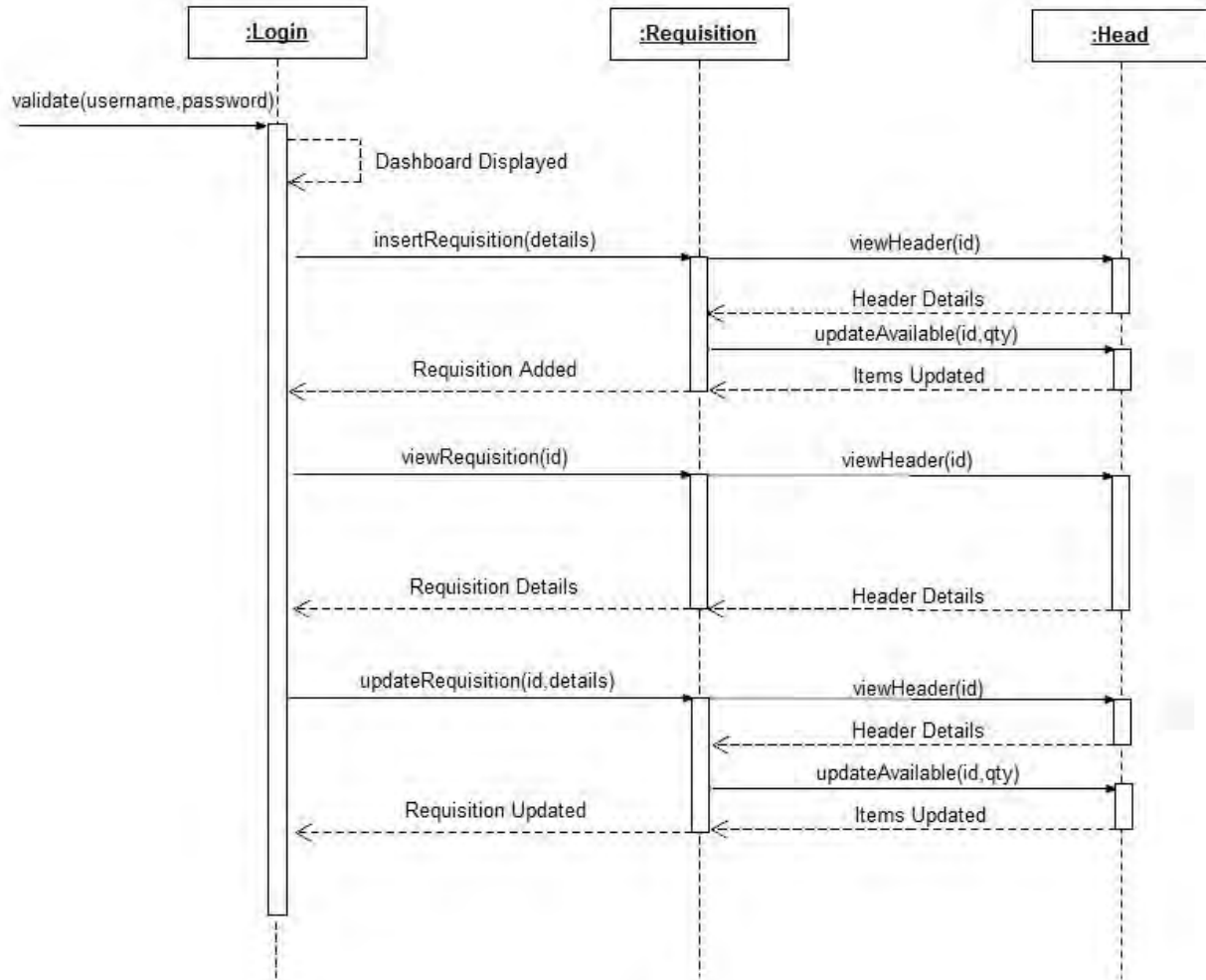
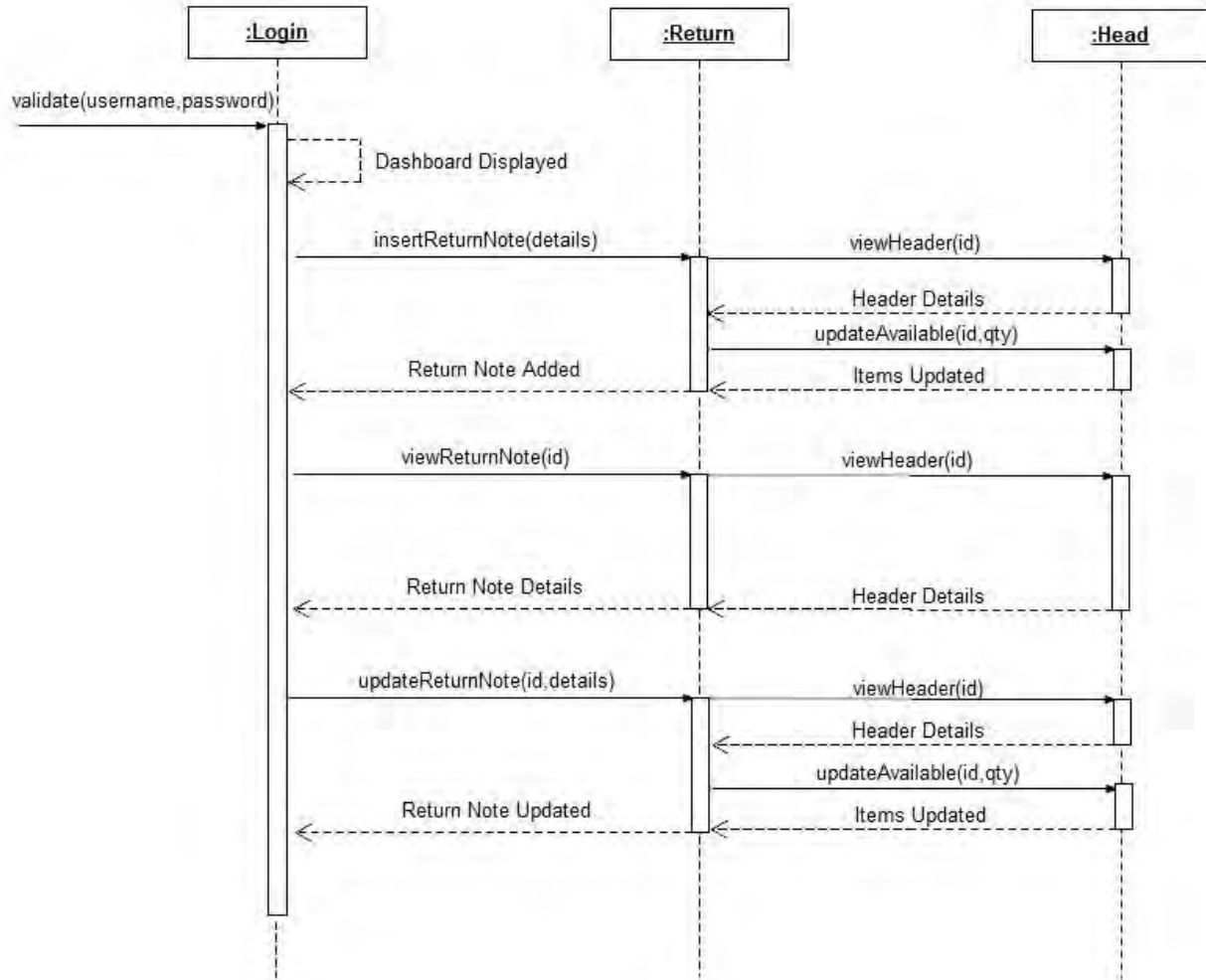


Figure 39 Requisition Sequence Diagram

### 3.4.4 Sequence Diagram Return Note



**Figure 40 Return Note Sequence Diagram**



### 3.4.5 Sequence Diagram Reports

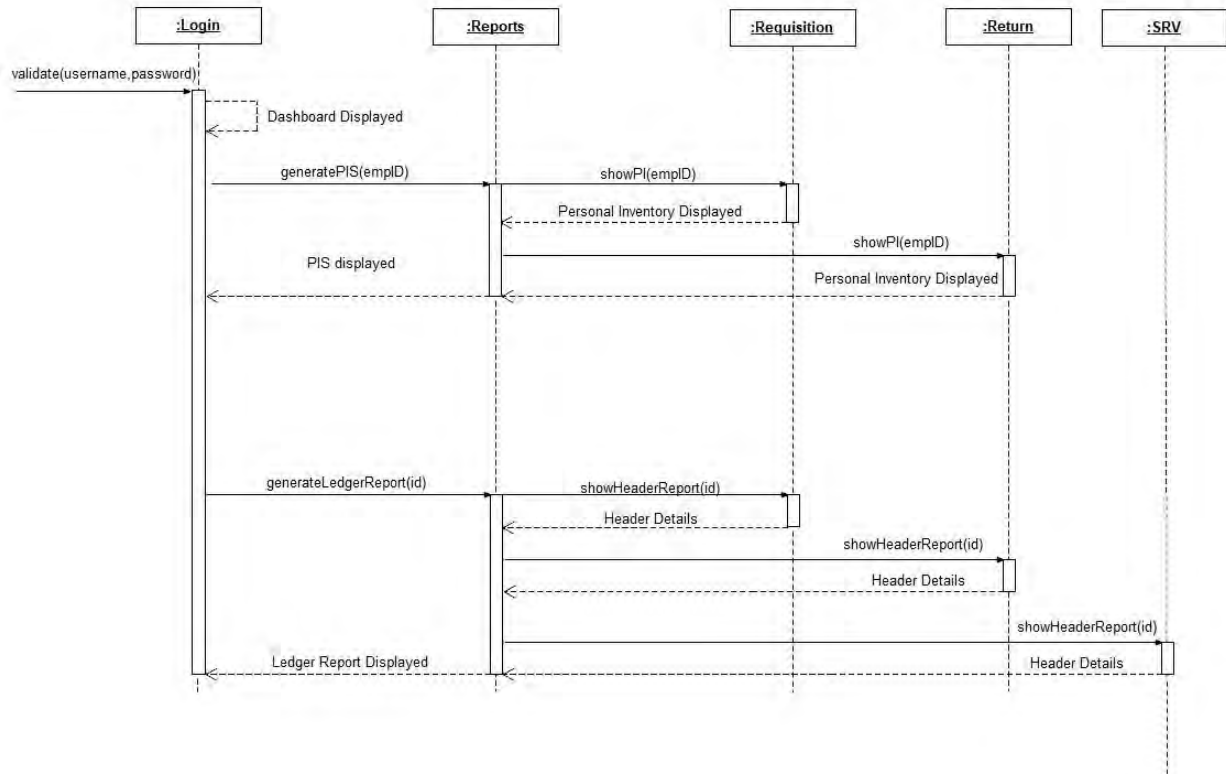


Figure 41 Reports Sequence Diagram

### 3.5 Class Diagram

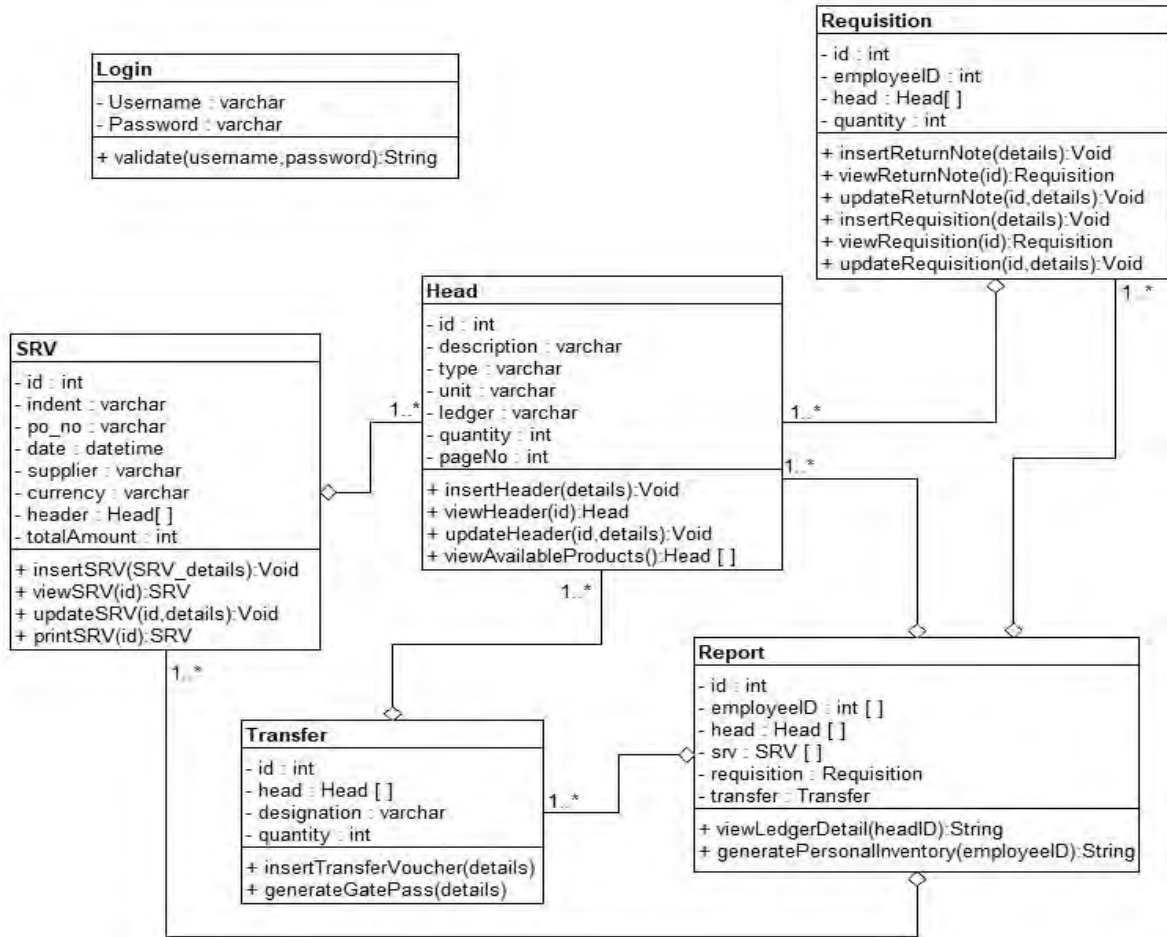


Figure 42 Class Diagram

### **3.6 Framework**

Because of light weight and being fastest among its family, Flask framework of python has been used to implement the project. It is simple and a large number of libraries and extensions can be integrated with it very easily.

### **3.7 Language Selection**

Python has been selected as a language for implementation as it is different and powerful from other languages syntactically as well as semantically. It is more secure as compared to other languages. Other characteristics include multi OS support which allows it to run on different OSes like Windows and Ubuntu etc.

### **3.8 Operating System**

This application will run on Windows, Ubuntu or any other operating system that supports Python programming language. But for instance we will deploy this project on system having Windows operating system

### **3.9 Database**

Database used for this project is Microsoft SQL Server 2012.

### **3.10 Web Application Screenshots**

The Application Screenshots provide an idea of the system. Initially the application starts with a login screen. After login authentication all other screens are accessible through the side menu. All the screenshots are attached in previous chapter.

### **3.11 Overview**

This chapter described about the architecture and user interfaces through which user will interact. This also describes the classes in shape of class diagram that help the reader to understand the classes and their relations and also sequence diagrams are included to assist. And also what tools and techniques are used and why they are used to implement the system.

# **Chapter 4**

# **Design Test Document**

## 4.1 Introduction

Software test document is a type of document under which tester will determine whether a system under test satisfies requirements or works correctly. The process of developing test cases can also help find problems in the requirements or design of an application.

## 4.2 Test Plan

Test planning is an activity that ensures that there is initially a list of tasks and milestones in a baseline plan to track the progress of the project. Test plan determines the scope and the risks that need to be tested and are not to be tested. Deciding fail and pass criteria.

## 4.3 Features to be tested

Features to be tested are as following

1. Login
2. Insert Header
3. Insert Requisition
4. Insert SRV
5. View Header
6. View Requisition
7. View SRV
8. Update SRV
9. Print personal Inventory sheets.
10. Print SRV

## 4.4 Test Cases

### 4.4.1 Login

**Table 17 Login Test Case**

<b>ID</b>	T1
<b>Description</b>	Store Manager will be login into its account.
<b>Tester</b>	Store Manager
<b>Setup</b>	Store Manager opens the application.
<b>Instructions:</b>	<ol style="list-style-type: none"> <li>1. Enter Username.</li> <li>2. Enter password.</li> <li>3. Press login.</li> </ol>
<b>Expected Results</b>	home page/Dashboard is displayed.
<b>Actual Result</b>	As expected
<b>Status</b>	Pass

#### 4.4.2 Insert Header

**Table 18 Insert Header Test Case**

<b>ID</b>	T2
<b>Description</b>	Store Manager will insert Head of account information.
<b>Tester</b>	Store Manager
<b>Setup</b>	Store Manager login to the system.
<b>Instructions:</b>	<ol style="list-style-type: none"> <li>1. Click Header option.</li> <li>2. System displays header menu</li> <li>3. Store Manager selects insert menu.</li> <li>4. System displays insert header form.</li> <li>5. Store Manager fills that form by entering header name unit ledger and page number and press save button.</li> <li>6. System saves header info.</li> </ol>
<b>Expected Results</b>	<ol style="list-style-type: none"> <li>1. New header is added to the headers list.</li> </ol>
<b>Actual Result</b>	As expected
<b>Status</b>	Pass

#### 4.4.3 Insert Requisition

**Table 19 Insert Requisition Test Case**

<b>ID</b>	T3
<b>Description</b>	Store Manager will insert Requisition information.
<b>Tester</b>	Store Manager
<b>Setup</b>	Store Manager login to the system.
<b>Instructions:</b>	<ol style="list-style-type: none"> <li>7. Click Requisition option.</li> <li>8. System displays Requisition menu</li> <li>9. Store Manager selects insert menu.</li> <li>10. System displays insert Requisition form.</li> <li>11. Store Manager fills that form by entering Requisition details and press save button.</li> <li>12. System saves Requisition info.</li> </ol>
<b>Expected Results</b>	<ol style="list-style-type: none"> <li>1. New Requisition is added to the Requisition list.</li> </ol>
<b>Actual Result</b>	As expected
<b>Status</b>	Pass

#### 4.4.4 Insert SRV

**Table 20 Insert SRV Test Case**

<b>ID</b>	T4
<b>Description</b>	Store Manager will insert SRV information.
<b>Tester</b>	Store Manager
<b>Setup</b>	Store Manager login to the system.
<b>Instructions:</b>	<ol style="list-style-type: none"> <li>13. Click SRV option.</li> <li>14. System displays SRV menu</li> <li>15. Store Manager selects insert menu.</li> <li>16. System displays insert SRV form.</li> <li>17. Store Manager fills that form by entering SRV details and press save button.</li> <li>18. System saves SRV info.</li> </ol>
<b>Expected Results</b>	<ol style="list-style-type: none"> <li>2. New SRV is added to the SRV list.</li> </ol>
<b>Actual Result</b>	As expected
<b>Status</b>	Pass

#### 4.4.5 View Header

**Table 21 View Header Test Case**

<b>ID</b>	T5
<b>Description</b>	View Header details.
<b>Tester</b>	Store Manager.
<b>Setup</b>	<ol style="list-style-type: none"> <li>1. Store Manager is login to the system.</li> <li>2. Header has been inserted.</li> </ol>
<b>Instructions:</b>	<ol style="list-style-type: none"> <li>1. Click Header option.</li> <li>2. System displays Header menu</li> <li>3. Store Manager selects view menu.</li> <li>4. System displays all Headers.</li> <li>5. Store Manager selects id of his entered Header.</li> <li>6. System displays Header info.</li> </ol>
<b>Expected Results</b>	Header info has been displayed.
<b>Actual Result</b>	As expected
<b>Status</b>	Pass

#### 4.4.6 View Requisition

**Table 22 View Requisition Test Case**

<b>ID</b>	T6
<b>Description</b>	View Requisition details.
<b>Tester</b>	Store Manager.
<b>Setup</b>	<ul style="list-style-type: none"> <li>3. Store Manager is login to the system.</li> <li>4. Requisition has been inserted.</li> </ul>
<b>Instructions:</b>	<ul style="list-style-type: none"> <li>7. Click Requisition option.</li> <li>8. System displays Requisition menu</li> <li>9. Store Manager selects view menu.</li> <li>10. System displays all requisitions.</li> <li>11. Store Manager selects id of his entered requisition.</li> <li>12. System displays Requisition info.</li> </ul>
<b>Expected Results</b>	Requisition info has been displayed.
<b>Actual Result</b>	As expected
<b>Status</b>	Pass

#### 4.4.7 View SRV

**Table 23 View SRV Test Case**

<b>ID</b>	T7
<b>Description</b>	View SRV details.
<b>Tester</b>	Store Manager.
<b>Setup</b>	<ul style="list-style-type: none"> <li>5. Store Manager is login to the system.</li> <li>6. SRV has been inserted.</li> </ul>
<b>Instructions:</b>	<ul style="list-style-type: none"> <li>13. Click SRV option.</li> <li>14. System displays SRV menu</li> <li>15. Store Manager selects view menu.</li> <li>16. System displays all SRVs.</li> <li>17. Store Manager selects id of his entered SRV.</li> <li>18. System displays SRV info.</li> </ul>
<b>Expected Results</b>	SRV info has been displayed.
<b>Actual Result</b>	As expected
<b>Status</b>	Pass



#### 4.4.8 Update SRV

<b>ID</b>	T8
<b>Description</b>	To update the inserted SRV
<b>Tester</b>	Store Manager.
<b>Setup</b>	<ol style="list-style-type: none"> <li>1. Store Manager is login to the system.</li> <li>2. SRV has been inserted.</li> </ol>
<b>Instructions:</b>	<ol style="list-style-type: none"> <li>1. Click SRV option.</li> <li>2. System displays SRV menu</li> <li>3. Store Manager selects view menu.</li> <li>4. System displays all SRVs.</li> <li>5. Store Manager selects id of his entered SRV.</li> <li>6. System displays SRV info.</li> <li>7. Store Manager updates required info and selects save</li> <li>8. Updated list of SRVs is displayed</li> </ol>
<b>Expected Results</b>	SRV has been Updated.
<b>Actual Result</b>	As expected
<b>Status</b>	Pass

#### 4.4.9 Print Personal Inventory Sheets

**Table 24 Print Personal Inventory Sheets Test Case**

<b>ID</b>	T9
<b>Description</b>	It will generate and print personal inventory sheet of employee.
<b>Tester</b>	Store Manager
<b>Setup</b>	Store Manager is Logged in to system
<b>Instructions:</b>	<ol style="list-style-type: none"> <li>1. Select requisition option.</li> <li>2. Requisition option will be displayed.</li> <li>3. Select personal inventory sheet option.</li> <li>4. Personal inventory sheet form will be displayed.</li> <li>5. Enter employee name and select print.</li> <li>6. Personal inventory sheet of that employee will be displayed</li> </ol>
<b>Expected Results</b>	Personal inventory system has been generated and displayed.
<b>Actual Result</b>	As expected
<b>Status</b>	Pass

#### 4.4.10 Print SRV

**Table 25 Print SRV Test Case**

<b>ID</b>	T10
<b>Description</b>	Print the SRV present in the system.
<b>Tester</b>	Store Manager
<b>Setup</b>	<ol style="list-style-type: none"> <li>1. Store Manager logins to system.</li> <li>2. SRV has already been inserted or Store Manager inserts new SRV.</li> </ol>
<b>Instructions:</b>	<ol style="list-style-type: none"> <li>1. Click SRV option.</li> <li>2. System displays SRV menu</li> <li>3. Store Manager selects view menu.</li> <li>4. System displays all SRVs.</li> <li>5. Store Manager selects print option in front of his entered SRV.</li> <li>6. System displays SRV print layout.</li> <li>7. Store Manager prints that SRV.</li> </ol>
<b>Expected Results</b>	SRV has been Printed
<b>Actual Result</b>	As expected
<b>Status</b>	Pass

#### 4.5 Summary

The product defines the web application known as “Stores Management System”. The main purpose of this application is to overcome the problems faced by the employees of Stores Department of NCP (National Centre of Physics) who manages the store manually i.e. paper based. In this work, we have focused to maximize the involvement of computer in managing the Store and minimizing the human effort. Store products record which could take months to compile and manage will be managed easily through this application. Many reports like personal inventory sheets and ledger details will be generated in the blink of an eye which was a big headache for the store employees before. System will store all data in the database for quick queries. All the work has been done using web technologies and python as a backend language.

#### 4.6 Future Enhancements

In the future, based on users valuable feedback we can increase its scope to whole NCP so that it can be used by all the employees at NCP to make requisition requests and generate and print their personal inventory sheets by themselves instead of going to the stores manages.

Digital signatures can also be introduced to the system so that directors and other stakeholders can completely rely on this system and make the work of employees much easier.

The documentation and the code written for this system would act as an aid for further development on the similar inventory systems.

## References

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