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Department of Computer Science  
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**CSE2101 - Software Engineering**

**Assignment**

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# **1. Introduction**

## **1.1 Purpose**

The purpose of the point of sale system is that it allows the company to collect payments from clients and track sales and item stock.

## **1.2 Intended audience and reading suggestions**

The target audience for this SRS document includes project managers, developers, and user testers. You can get more detailed information about the point-of-sale software that will support Hardware Supply in the SRS paper. You can discover the relevant subheadings for the various portions of this project by utilizing the table of contents.

Six (6) distinct subheadings of the software's perspective on the project's assumptions and dependencies can be found under main header two (2). These headers can be used by user testers, developers, and project managers.

The system features are listed under main title three (3), while subheadings three point one (3.1) and three point two (3.2) provide a more detailed description of the point-of-sale software.

Last but not least, you may locate the non-functional criteria for the point-of-sale software under major heading four (4). From four points (4.1) to four points five, everything from performance, safety, and security requirements to software quality and business regulations (4.5). These details can be used by all readers to fully comprehend the project.

## **2. Overall Description**

### **2.1 Product Perspective**

The product we are providing is a Management information system. It's an information system that is built based on the needs of the business. The MIS will be providing the user with the decision-making, coordination of stock and sale for the business.

### **2.2 Product Functions**

The major functions that the Management information system will accomplish for Neisha's Hardware Supply will be:

- ❖ The system allows an employee to sign up/login into the system.
- ❖ The system maintains information about inventory, sales and employees.
- ❖ The system allows the user to query information from the database.
- ❖ The system allows the user to add items to the database.
- ❖ The system allows the user to view items in the database
- ❖ The system allows the user to update items in the database
- ❖ The system allows the user to delete items from the database.
- ❖ The system takes a barcode input and generates an invoice.
- ❖ The system updates the database after a sale.
- ❖ The system generates monthly sales summaries.

### **2.3 User Classes and Characteristics**

This MIS is intended for use by the employees and manager of Neisha's Hardware Supply hence they should have fair experience with computer systems. The manager will have admin access to the database. The user should have fair knowledge on how to use the MySQL or XAMPP software/s in order to manage and monitor inventory. The employers and employees should have the following functionalities:

#### **Administrative**

- Add/delete/update/edit items and their attributes in the database
- Query and View

#### **Employee**

- Query and View.

- Create a bill from items purchased.
- Edit a bill.

## **2.4 Design and Implementation Constraints**

Our team is expected to have constraints mostly regarding the type of database being incorporated, the quality of data management being carried out and also specific technology constraints such as acquisition of POS machines, Barcode scanners and Receipt printers and up-to-date computer systems with required specification needed.

## **2.5 Assumptions and Dependencies**

- The system is expected to have the appropriate versions of MySQL or XAMPP
- The system needs access to the internet.

### 3. System Features

#### **3.1 The system allows an employee to sign up/login into the system.**

##### **Description and Priority**

Description	Priority
The system should have a sign up/login page. This is to limit the different levels of access to the database.	Low

##### **Stimulus/Response Sequences**

- ❖ The user signs up
- ❖ The user logs into the system
- ❖ The user adds, updates, deletes items from the database.

##### **Functional Requirements**

1. Sign up/Login page.
2. User verification
3. “Forgot password” feature.

#### **3.2 The system maintains information about inventory, sales and employees.**

##### **Description and Priority**

Description	Priority
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The system maintains information about inventory, sales and employees.	High
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#### **Stimulus/Response Sequences**

- ❖ The user adds items and their attributes to the database
- ❖ The system stores the items and information.

#### **Functional Requirements**

1. The system must be able to store items and their attributes
2. The user is able to add, edit, and delete items from the database.

### **3.3 The system allows the user to query information from the database.**

Description	Priority
The system allows users to query information from the database	High

#### **Stimulus/Response Sequences**

- ❖ The user queries for an item.
- ❖ The system returns the result.

#### **Functional Requirements**

1. Search function
2. Display function

### **3.4 The system updates the database after a sale.**

### **Description and Priority**

Description	Priority
The system updates the database after a sale.	Medium

### **Stimulus/Response Sequences**

- ❖ The user scans/adds a product to be purchased
- ❖ The system adds it to a bill
- ❖ The receipt prints.
- ❖ The system updates the inventory

### **Functional Requirements**

1. The system must be able to collect a barcode input.
2. Adds scanned items to a list to be printed.
3. Be able to delete an item from the list.
4. Generate a bill
5. Decrement stock of items from the database that was purchased.

## **3.5 The system generates monthly sales summaries.**

### **Description and Priority**

Description	Priority
The system generates monthly sales summaries	Medium

### **Stimulus/Response Sequences**

- ❖ The user clicks the function to see weekly/monthly stats
- ❖ The system displays the result

### **Functional Requirements**



1. Function to store all sales.
2. Function to create summary from sales.
3. Function to display summary.

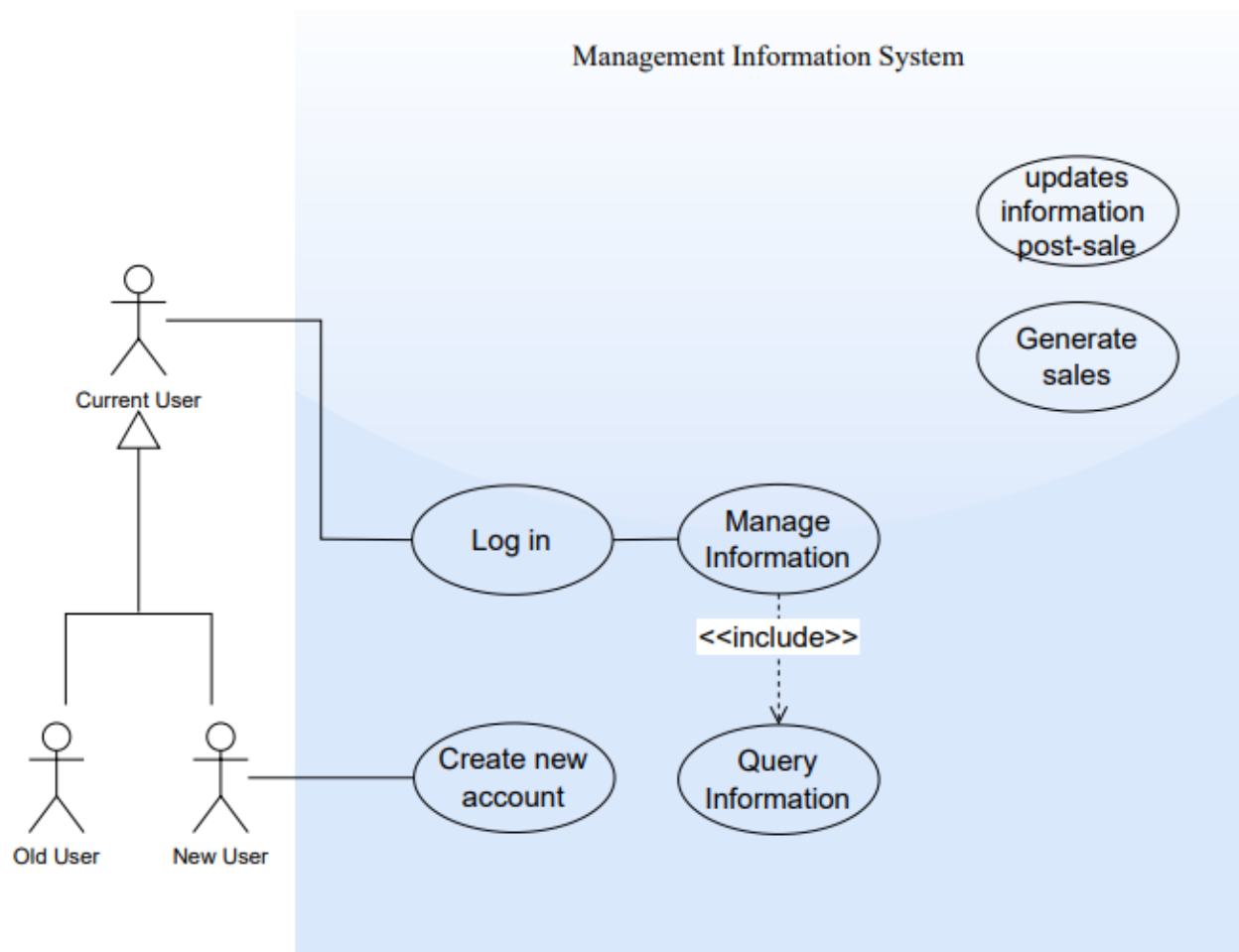


Figure .1 showing the use case for the software

## **4. Other Nonfunctional Requirements**

### **4.1 Performance requirements**

Under the circumstances whereby a customer would approach the store clerk to query if they have an item in stock. When the clerk checks the database, the software should load within an adequate time frame populating the queried information.

After decrementing the stock of items from the purchased database, if the item count drops below a certain amount, the database should send a notification displaying it on the interface that the stock count drops to prevent having to backorder.

### **4.2 Safety requirements**

Auto backup system to prevent loss of data while adding information into the database in case of any glitches in the system, freezes, or power outages. If the backup does not render through, it may seriously disrupt the performance experienced by the users.

The functions implemented into the system should accurately retrieve and display the correct name of the item and price to prevent the customer from paying for the incorrect item, causing the store to either lose money or damage the image of the store for incorrectly charging customers. It should also be able to accurately tabulate and pull reports of weekly/monthly statistics.

### **4.3 Security Requirements**

The database should be stored on a cloud server and should be protected by strong passwords by the users. The system will have an email verification feature to verify the user. The database may only be viewable and editable to the owner and the other users whom they granted those permissions.

### **4.4 Software Quality Attributes**

#### **Adaptability**

The software should be able to adapt to new conditions similar to which it was built to be used. This may include new layouts/formats that the business might want to implement.

#### **Availability**

Employees should be able to manipulate the database at all times with little to no delay as customers will come in at all working hours of the day.

### **Maintainability**

The employees should be able to maintain the database and ensure that it is up to date.

### **Correctness**

The database should be up to date and the software should return correct information when queried. The system should also be able to read barcodes with no error as this may cause the employee to manually add it to the bill/receipt.

### **Reliability**

The software should be able to work correctly and effectively because errors in the system may slow down productivity.

### **Usability**

Employees should be aware of all the functionalities and should be able to easily navigate through the system with no confusion. The software should also be able to satisfy the business needs.

## **4.5 Business Rules**

Every invoice must reference a customer record, probably a foreign key on the customer\_id column of the Invoices table referencing the primary key of the customers table. Only the owner/managers can manipulate the database at all times while the employees may only be able to query and view the result from the database. The employees should be able to create invoices and collect payments.