SUPERMARKET AUTOMATION SYSTEM(SAS)

Introduction:

PURPOSE

This SRS describes the software functional and non-functional requirements for release 1.0 of the supermarket automation system (SAS). This software is designed to automate the billing and inventory system in a supermarket. Unless otherwise stated, all requirements specified here are high priority and committed for release.

SCOPE

The Supermarket automation software consists of the following major functions:

• Maintaining and updating the inventory of the various commodities of the supermarket.

• Creating and printing sales transaction bills.

• Displaying and printing the sales statistics of various commodities for any particular period.

DEFINITIONS, ACRONYMS AND ABBREVIATIONS

Bill

A bill is a commercial document issued by a seller to the buyer indicating the products, quantities and agreed prices for products or services the seller has provided the buyer. It can indicate a sales transaction only.

Inventory

It describes the goods and materials that a business holds for the ultimate purpose of sale.

Bar code

A bar code is an optical machine-readable representation of data related to the object to which it is attached.

Automatic weighing machine

An electronic device which can measure the weight of an object kept on it, and the weight is displayed on an LED display with a high level of accuracy.

Sales clerk

A Sales clerk is an employee who is responsible for carrying out transactions with the customers for the different items in the supermarket.

Supermarket staff

Supermarket staff is the set of employees responsible for maintenance of the supermarket inventory.

Manager

A Manager is an employee who is responsible for supervising the supermarket staff and sales clerks and analysing the sales statistics in a given period of time.
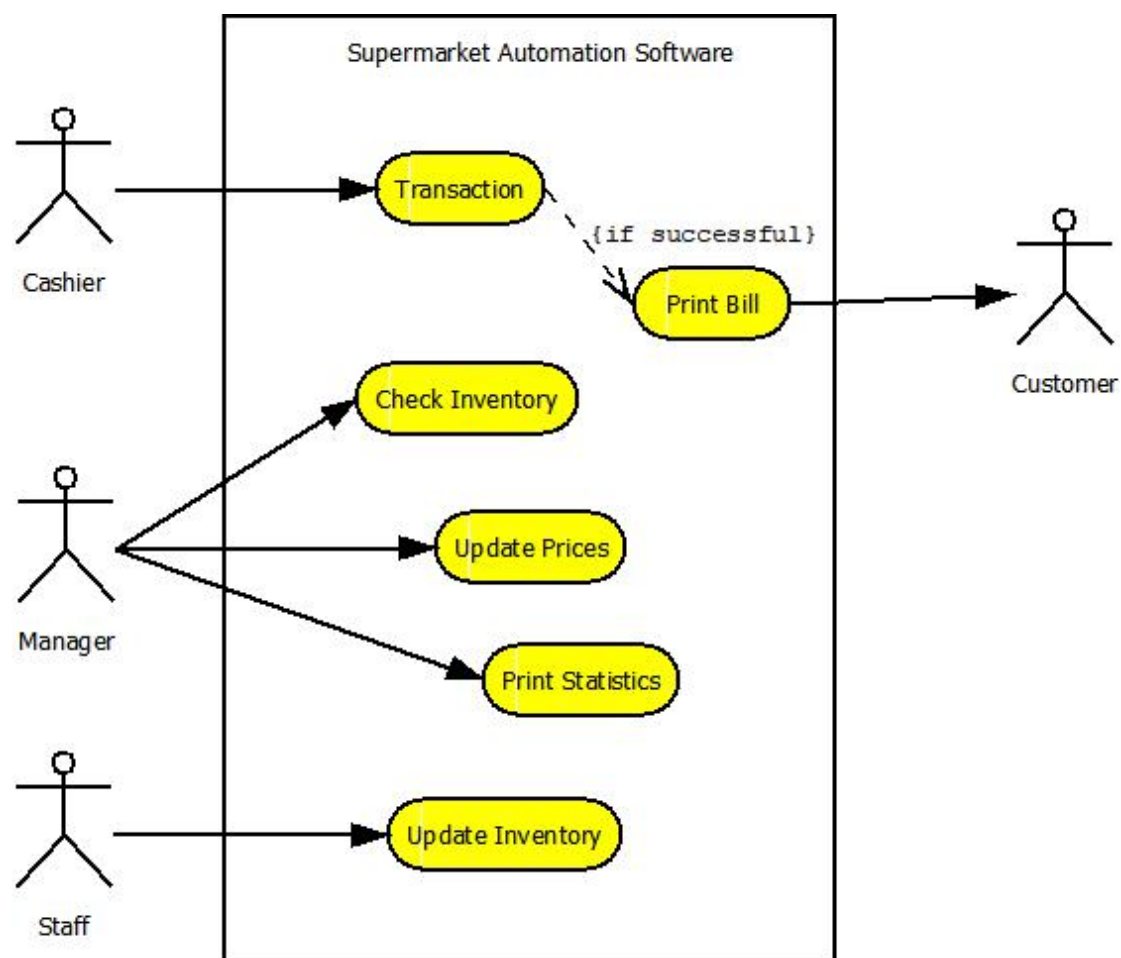
Overall Description:

Product Perspective:

The SAS is designed to replace manual billing .By replacing manual billing, we can reduce human error. The software will allow the cashiers, staff/employee and the manager to operate on it.

The cashier can make the transactions and have the bill printed for the customer. After the transaction is successful, the inventory gets updated. The staff gets to update inventory whenever there is suppy stock incoming. The manager, as requested, will be able to set prices of the commodities, check the sales statistics and inventory.

Given below is the use case of SAS

Product Functions:

S.no.	Name	Description	Exclusively used by
1	Transaction	To perform transaction when customer buys something	Cashier

2	Print bill	To print bill when the transaction is successful	Cashier
3	Update inventory	The inventory is updated whenever a transaction is done or when supply stock is incoming.	Staff
4	Update prices	To update the price of commodities	Manager
5	Check inventory	Gives details about commodities unsold/left	Manager
6	Print statistics	Prints the sales statistics for every item at any given time.	Manager

Specific Requirements:

External Interface requirements:

User Interfaces

Manager interface

   The SAS screen displays interfaces to view the inventory, change the prices of the products, view and print sales statistics.

Sales Clerk interface

   The SAS screen displays an interface to commute a transaction with a customer, and produces and prints a bill for the transaction.

Supermarket staff interface

   The SAS screen displays an interface to update the inventory for the supermarket with each arrival of new supplies.

Hardware interfaces

   For the software to function properly,

> ➢ Monitor
> ➢ Keyboard
> ➢ Mouse
> ➢ Bar code reader
> ➢ Automatic weighing machine
> ➢ Printer

Software interfaces

 Inventory query

> ➢ The manager queries the product whose details he/she wishes to view.
> ➢ The SAS programmatically determines the details of the product. • The SAS displays information about the product.
> ➢ The manager selects the option to change the price of the product which updates the corresponding price in the database.

Add to inventory

  ➢ The supermarket staff requests for the addition of the product and subsequently enters the details of the product.
  ➢ The SAS updates the product in its database and gives a confirmation message.

New transaction

  ➢ The sales clerk provides the details of the product ready to be purchased.
  ➢ On pressing the print button, the details of the inventory are updated and a bill is produced and printed along with a confirmation message.

<u>Communication interface</u>

   Any changes made to the inventory of the supermarket is automatically updated in the database which has been set up in a separate server in the supermarket itself.

Functional requirements:

Features	Functionality	Requirements
1.Sales clerk Registration	Every sales clerk must register in SAS.	• When the sales clerk opens the application, it should pop up for Registration process. • Registration process must include Sales clerk ID, Sales clerk name, Mail id, Contact number, Address.
2.Sales clerk Login	SAS must allow the sales clerk to Login.	• When the Sales clerk opens the application the login page should pop-up. • There must be options like Sales clerk ID and password for logging in. • If the password is wrong, it should give an alert or pop-up displaying that Login details are wrong.
3.Sales clerk Profile	SAS must show the sales clerk details.	• When the sales clerk login, there should be a tool to open account settings. • This must allow the sales clerk to modify

		their profile, update password, change address or contact number. • Once the changes are done the modified details must be updated in the database.
4.Billing Page	SAS at the end of a sales transaction should print the bill.	• The billing page must contain serial number of the sales transaction, name of each item, code number, quantity, unit price and item price. • It should also indicate the total amount payable.
5.Billing page- Add items	In the billing page the salesclerk must be able to add items.	• If the barcode of an item is scanned, the details of the item must be displayed automatically. • The details of the item should be automatically updated in the billing page.
6.Billing page- Search bar	This must display the details of the item mentioned in the search bar.	• It should display the details of the item mentioned in the search bar and list the items available if the first letter of the item is entered.
7.Inventory	SAS should maintain the inventory of the various items of the supermarket.	• This must display the list of items and total number of items present in the Supermarket. • The inventory of an item should be decreased whenever an item is sold.
8.Update Inventory	SAS should allow the Supermarket staff to update	• This must allow the manager to update

	Inventory.	• the inventory whenever a new stock is available.
9.Update prices	Allows the manager to change the price of an item.	• This must allow the manager to change the price of the item because the price may vary on day-to-day basis.
10.Sales statistics	SAS should support printing the sales statistics for every item the supermarket deals with for any particular day or for any particular period.	• The sales statistics should indicate the quantity of an item sold, the prize realized, and the profit accrued.