SRS DOCUMENT
OF

SUPERMARKET AUTOMATION SOFTWARE

TEAM :

PAMUJULA DHANUSH (118CS0165)

MADDILETI SAI TEJA (118CS0207)

PINISETTY SANTOSH (118CS0144)

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1. Introduction:

The Super-Market Automation software(SAS) is developed for the automation of the tasks in the supermarket . The tasks include the auto-up-dation and maintenance of the inventory items, billing the items of the customers , calculating the statistical report of the items in the inventory over a period of time . It helps the employees of the supermarket for doing their work efficiently.

1.1 **Purpose :**

The purpose of SRS document is to provide a detailed overview of the software ,its goals and parameters . The target audience of the following document are testers , documentation writers , maintenance developers. The document describes the user interface , the software requirements , hardware requirements and it's functionalities.

1.2 **Scope**:

The goals for our project is to build a software which helps our clients(employees of the super market) to generate and print transaction bills, update and maintain the inventory, display the statistical report for any item over any period of time and to be able to change the price of any item.

1.3 **Definitions , Acronyms , Abbreviations:**

Term/Abbreviation/Acronym	Expansion/Description
WWW	World Wide Web
GUI	Graphical user interface
SRS	Software requirement specification
IEEE	Institute of electrical and Electronic Engineers
BARCODE	Bar code is an machine readable identification number for identifying the products
WEIGHING MACHINE	Machine used to the weigh the product
INVENTORY	Storage house to store products

1.4 **Reference:**

The reference of the above software are :

1. www.google.com
2. www.wikipedia.com
3. IEEE

1.5 Overview:

The document is written according to the IEEE standards , the section 2 describes about the user characteristics , product functions , product constraints and section 3 describes about the user interface , hardware interface , software interface and non functional requirements.

2.Overall Description:

2.1 Product Perspective:

The SAS(Super-market Automation Software) is a software that helps in replacing in the current manual billing and manual inventory management. This software allows the automation of billing and inventory management. This software also helps in displaying statistical report by fetching the data from the inventory database.

2.2 Product Functions:

The software offers the following functionalities:

1. Perform sales transaction
2. Generation of bills
3. Update inventory
4. Check/Maintain inventory
5. Display statistical report
6. Price Change
7. Log in

2.3 User Characteristics :

There are mainly 4 different kind of user who work/interact with software . The users are as follows:

1.Sales Clerk : The sales clerk is responsible for the transactions

		with customers , generating bill and printing bills.
2.Maintenance Employee	:	The Maintenance employee is responsible for the maintenance and up-dation of the inventory.
3 Manager	:	A Manager is responsible for revenue and sales functions . He views the items in the inventory and their statistical report and review their costs.
4 Admin	:	He is the owner of the supermarkets , he is responsible for appointment of managers,

2.4 Constraints :

The weighting machine I use has some weighting limitations regarding maximum weight it can weight . This may constrain the accuracy in the weight measured.

2.5 Assumptions and Dependencies:

The weighting machine and bar code reader are assumed to be present and functional at the billing counter as without them the billing process would be not possible . It is also assumed that the printer is present.

3.Specific Requirements:

3.1 External Interface Requirement :

3.1.1 User Interface:

Manager Interface	:	The SAS screen displays an interface to view inventory , change price , view and print statistical display .
Sales clerk Interface	:	The SAS screen displays an interface to commute the transactions with customers , generate bill and print bill.
Employee Interface	:	The SAS screen displays an interface to update and view items in the inventory.
Admin Interface	:	The SAS screen displays an interface for adding and removing of managers.

3.1.2 Hardware Interface :

For the software to function properly , the bar code reader reads the barcode from the product and send the product id to the software , weighting machine weighs the weight of the product and send it to the software , the software deduces the quantity and totals the product costs and generates the bill.

3.1.3 Software Interface:

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.

3.1.4 communication Interface:

The contact information of the developer will be provide at the bottom of the software under the tab of contact info , so that the manager can contact in case of any problem.

email: asdfghjk@gmaol.com

phone no: 987****546

3.2 Functions:

1. Sales Transaction and billing :

Introduction : A sale transaction both authorizes and settles the requested amount against the payment method indicated. Through authorizing, the Transaction request confirms that the payment method exists and that funds are available at the time of Authorization to cover the transaction amount.

Inputs : 1.Products' IDs from the bar code reader.
2.Weight reading from the automatic weighing scale.

Processing : 1.The SAS queries the database for the product information and calculates the total amount payable after inclusion of taxes.
2.A bill is created in a printable format.

Output : A bill is printed with all details.

2. Viewing sales statistics

Introduction : The manager views the sales statistics and prints them in various formats such as pie charts, bar graphs, tabular format, e.t.c .

Input : 1. Product Id
2.Duration

Processing : The SAS looks into database , for selling and cost price of the product over the given duration and will generate statistical reports.

Output : The statistical report will be displayed as requested for the given item over the given duration.

3. Price change:

Introduction : The manager can change the price of the commodities present in the inventory

Input : 1. Product Id
2. New Price

Processing : The SAS looks for the product using product id given then it updates it in the database.

Output : The price of the product will be updated.

4. Up-dation and Maintenance of Inventory :

Introduction	:	The supermarket staff can add new items to inventory or increment the quantity of the newly arrived products.
Input	:	1. The product Id 2. Quantity of products arrived.
Processing	:	The SAS looks up in the database using the product Id , if present the quantity is updated , else the new product information is added to the database.
Output	:	A message is displayed showing that the database is updated.

5. Log in :

Introduction	:	The supermarket staff should be able to log in by using their Log id and their password.
Input	:	1.Employee Id 2.Password
Processing	:	The SAS should verify the employee id with the password in database and authorize the log in.
Output	:	The employee should be logged in based on their Employee id.

3.3 Performance Requirements:

The performance of the system should be fast and accurate , the system should be able to handle the large amount of data, the search features should be easy to find the products

3.4 Database Requirements :

The Database should store the following information

- Employee information ,
- Items information (such as its product name , product Id , cost of item),
- Statistical data of each and every item.

The database should allow concurrent access by multiple users and it should be consistent all the time

My-sql is needed to store and retrieve the information for the login/register of the

employee, up-dation of the inventory , storage of statistical data of items

3.5 Quality Requirements :

3.5.1 Reliability	:	The system should work reliably, with automatic backup and recovery features. In case of unexpected termination of a session, the unsaved data should be recovered without loss and displayed to the respective users for saving into the system or continuing with the work.
3.5.2 Availability	:	The software should be available all the time in the supermarket from opening to closing time
3.5.3 Security	:	Every user of the software should be provided with a unique login Id and password which is stored in the database for authorized login into the system.
3.5.4 Maintainability	:	The document should be easy for the users who execute the system day to day, for the developers who wish to edit or develop further, and for the personnel who is in charge of the maintenance.
3.5.5 Portability	:	The software should run on any system and the system should support updates for the software
3.5.6 Usability	:	The GUI should be easy to understand and work with by any non-technical background people . A built in help function should be available so that the user can use it in case of any problem . An easy understandable documentation should be provided and software should support multiple languages