**SUPERMARKET AUTOMATION SOFTWARE**

Software Requirement Specification

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# Introduction

## PURPOSE

This SRS describes the software functional and non-functional requirements for release

* 1. 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 1.0.

## 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.

## REFERENCES

* + - SRS template by Jacksonville State University.
    - en.wikipedia.org for relevant definition

# General Description

The supermarket automation system is a new system that replaces the current manual processes of billing and inventory management in a supermarket. The context diagram in figure 1 illustrates the external entities and system interfaces for release 1.0. The system is expected to evolve over several releases.

## FUNCTIONAL REQUIREMENTS

#### Sales transactions

##### 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

* + - Products' IDs from the bar code reader.
    - Weight reading from the automatic weighing scale.

##### Processing

* + - The SAS queries the database for the product information and calculates the total amount payable after inclusion of taxes.
    - A bill is created in a printable format.

##### Outputs

* + - A formatted bill is printed for the customer.

##### Error handling

* + - The SAS may not be able to connect to the server due to error in network connection, in the case of which transaction is not possible.

#### Viewing sales statistics

##### Introduction

* + - The manager views the sales statistics and prints them in various formats such as pie charts, bar graphs, tabular format, etc.

##### Input

* + - Item identification parameter (such as product ID or name).
    - Time period or duration.

##### Processing

* + - The SAS looks into the database, the cost and selling price of the particular product for every transaction in that period and generates the profit statistics in the

requested format.

##### Outputs

* + - The profit statistics are displayed in the requested format for the manager, which he prints for his convenience.

#### Updating the prices for different commodities

##### Introduction

* + - The manager easily updates the prices for all the items available in the supermarket according to the changing prices in the market.

##### Inputs

* + - The product identification parameter (such as product ID or name).
    - New Price for the product.

##### Processing

* + - The SAS looks into the database and shows the product information.
    - It updates the database with the new price.

##### Outputs

* + - The product information with updated price is shown.

#### Updating the inventory

##### Introduction

* + - The supermarket staff adds new items to the inventory which have newly arrived.

##### Inputs

* + - The product ID and quantity of the product arrived.

##### Processing

* + - The SAS looks into the database, if the product ID already exists in the inventory database, the quantity is updated otherwise new product information has to be added to the database.

##### Outputs

* + - A message is displayed confirming the update regarding the product ID and amount.

## NON-FUNCTIONAL REQUIREMENTS

#### Performance

High level of performance requires high speed network and high level of connectivity.

#### Reliability

The available server must be reliable and the network connectivity in the supermarket should be proper for smooth flow of all operations and data.

#### Security

Every user of the software is provided a unique login ID and a password which is stored in the database hashed by SHA2 algorithm.

#### Availability

The software is available for use from the supermarket opening time to the closing time.

## OTHER REQUIREMENTS

Each user of the SAS is required to log in his/her account to perform different activities like sales transactions, update inventory, view sales statistics and update process etc.

MySQL is required for maintaining the databases of inventory, sales, and employees.