SUPER MARKET BILLING SYSTEM

Project report

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ABSTRACT

Supermarket billing system automates the supermarket. It assists the users to manage records on customers. It is more efficient than a manual system as it is fully automated. Manual billing system cannot sustain the growing number of customers, it fails to maintain records for each and every person who visits the store. That's where the machine-controlled application comes to play. It can maintain records on each and every person. It is also relatively cheaper as it does not require physical storage. Supermarket billing system removes the usual problems faced by salespersons and makes the whole thing hassle free. There are considerable issues with the manual billing system which can be solved easily through an automated system and time can be used elsewhere. In this everything is sorted and ready to be used effortlessly. Automated system saves time and effort of a person and the organization through sorting and saving everything at one place. It is reliable, easier, quicker and more informative. There are two modules in this system one is admin and the other is operator. Admin role is to update the stock and manage customer's details and also some other operations. The operator's job is to bill the products and store them. Although it depends on the user or the organization there are also some disadvantages to this system, some of them include a large database to store all the customer details and it cannot bill the items without RFID codes or products with damage codes. The database has to be upgraded from time to time as the number of customers will increase with time. Although there are some considerable disadvantages to the system, especially if you consider the cost of database and to upgrade it, it brings many sophisticated applications to the table which will help the store to get one step closer to automation. Hence, there is less scope for failure, which makes the application compelling.

LIST OF FIGURES

1 INTRODUCTION

1.1 General

Super market billing system is an application whose primary function is to assist the people in the supermarket. It does that by automating the store. People using this application can avoid manual bill making and can get rid of maintaining heaps of bills.

1.2 Objective

The main objective of the application is to automate the store and avoid mistakes which might be done when done manually, replaces the physical bills with E-bills and also users can monitor the stocks, customer details, maintaining the records of the sales done for a particular month/year. The users will consume less time in calculation and the sales activity will be completed within a fraction of seconds whereas manual system will make the user to write it down which is a long procedure and it also consumes a lot of time. The data will be stored in the database. Because of this software, paper work will be reduced and the user can spend more time on the monitoring the supermarket. The project will be user friendly and easy to use.

1.3 Scope

Admin and the operator have to login using their credentials to use the application. Then the admin will have some operations, namely updating and monitoring stocks etc. The operator when logged in can see some operations of his own such as bill payment.

1.4 Existing System

Many Supermarkets use this type of billing system. It has been improved according to the requirements of sellers and customers. It does the same work that is calculating the bill, gives it to the customer and maintains a proper database and also generates records. A new concept is added in the billing system which also maintains relationships with the customers who purchase more products regularly, so that System gives them more commission.

1.5 Limitations of Existing System

1. Processing Speed: Processing speed of the software is not so good to operate fast.

2. Flexible: Existing system is not so flexible that it can be changed according to the operators and customers.

3. Man Power: Existing System uses so many people to operate the system.

1.6 Proposed System

This system will address all the drawbacks of the existing system and also improves some of them to an extinct. It is a sophisticated method in contrast to the existing system.

1.7 Advantages of Proposed System

1. Reduction in processing cost.

2. Error reduction.

3. Automatic posting.

4. Improve reporting.

5. Automatic production of the documents and Reports.

6.Reduction in Man Power

7. Ability to meet user requirements.

8. Flexibility.

9.Reduction in use of paper

2 PROJECT DESCRIPTION

2.1 Overview

In this project there are two sections: administrator and customer. On the customer side only information is passed and saved as a record. On the administrator side there are five modules which have their functionalities and will perform in order to run the application. On the administration side there will be two or more operators, one is admin and the rest are billing operators. Each of them has to login with their credentials to access the application, which makes it secure from any unwanted users.

2.2 Methodologies

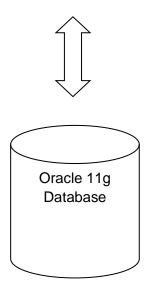There are two modules in this system which are listed below

2.2.1 Modules

- Admin module
- Cashier Module

3 SYSTEM DESIGN

3.1. Architecture Diagram

Layer	Logical View	Technology/ Framework
Presentation Layer	**UI Components** Export (pdf)　　Validations 　　　　　　　　Resources Report	HTML/ CSS/ JavaScript/ SpringBoot
Application/ Business Layer	**Web-Server Classes** Configuration　　Controllers Service　　REST Controllers Entity/ Model Classes	Java 1.8/ Spring MVC
Data Access Layer	Repository classes	Hibernate ORM

Presentation Layer:

This layer consists of all UI components.

- Export component: The plug-in is used to export the reports in pdf format. It helps to reduce the workload on the web/ application server.

- Validation component: All basic level data validations should be done at UI level.

- Report component: All reports to be generated to the user, will be processed and generated at the browser end.

- Resources: All HTML/CSS/ images, which are required for the page design.

Application Layer:

This layer comprises of all server and business classes.

- Configuration settings (XML or Class based) will define the application and server configuration.

- Spring Controllers defines the server classes, which are required to process the incoming http requests.

- Service classes are required to perform the required business services.

- REST Controllers to process the HTTP AJAX requests.

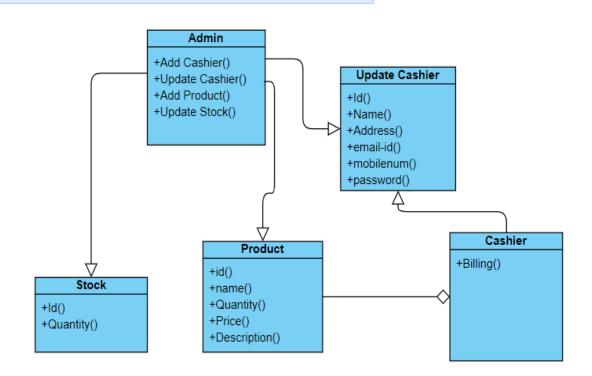- Model classes are used the define the functions of the entities present in the system.

Data Layer:

Data layer is implemented through Hibernate ORM. It will contain the repository classes, which provides interface to the table.
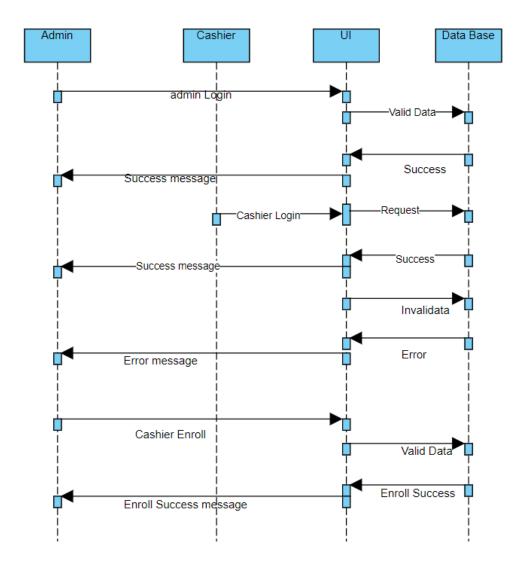
3.2. Use Case Diagram

3.3. Class Diagram

3.4. Sequence Diagram

4 REQUIREMENTS

4.1 HARDWARE SPECIFICATIONS

PROCESSOR: i5

      RAM: 8GB

      HDD: 50GB

4.2 SOFTWARE SPECIFICATIONS

Operating System: Windows 10

Languages Used: Java

4.3 MODULE SPECIFICATION

There are two modules in this system which are listed below

4.3.1 Modules

- Admin module
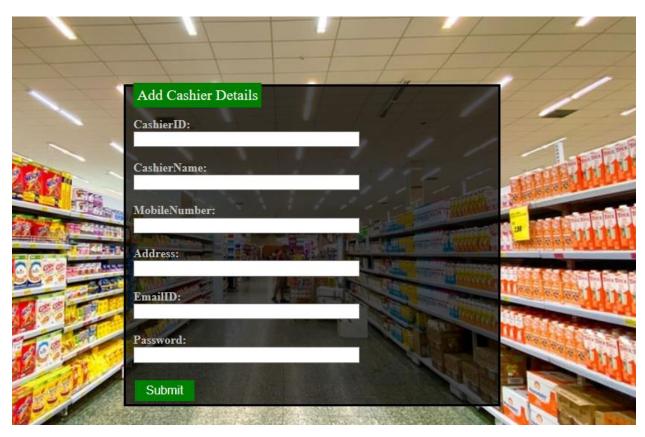
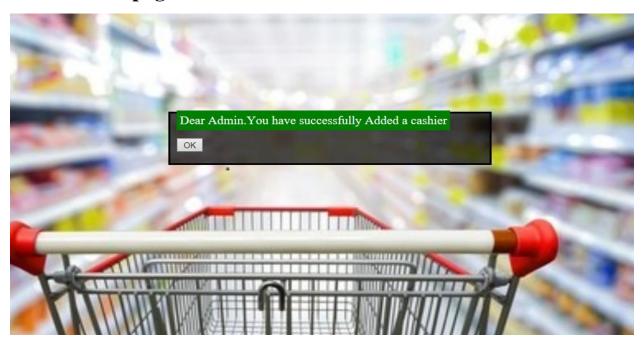- Cashier Module

5. SCREEN SHOTS

5.1 Login page.html
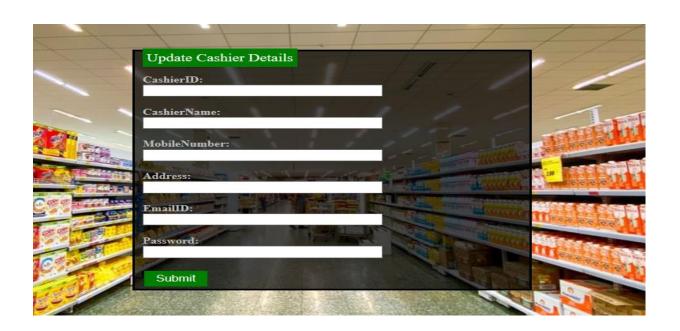
5.2 AdminAuthSuccess.jsp
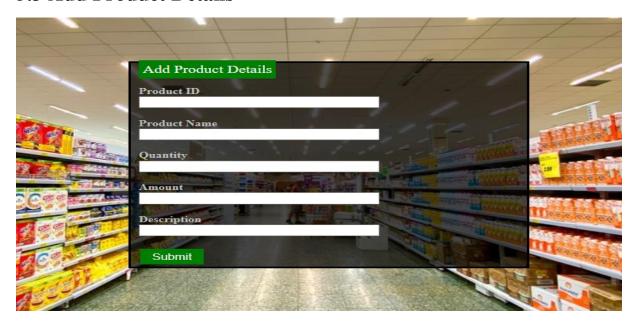

5.3 Add Cashier Details
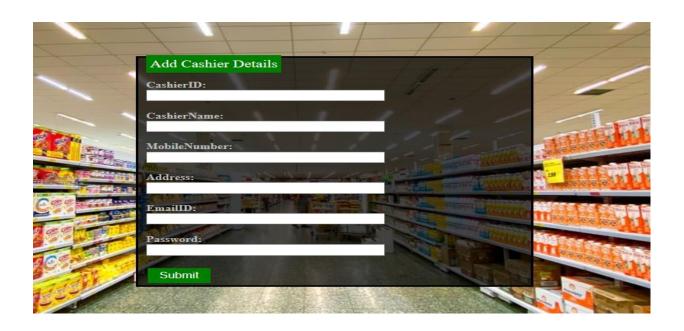
5.3.1 Success page

5.4 Update Cashier Details

5.3 Add Product Details

5.4 Add Cashier Details.jsp

CONCLUSION

Supermarket Billing System has to do with making appropriate effort to stop the rising problem to all manual supermarket operation in order to enhance the operation of such supermarket. In this project, the software or system that can be used to aid all supermarkets that is still operating manually have been successfully developed.