PRODUCT MANAGEMENT SYSTEM

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ABSTRACT

Product management system is the process of managing the products in an organization. There are organizations of different level but the task of managing the products remains the same. The aim of our project was to develop a product management system. The web application developed is for a supermarket. All the details of the products sold in the supermarket is stored in a database. Our software makes use of this data to provide the functionalities such as viewing the list of items in the store, adding new items, deleting and updating the details of the products in the store.

The web application can be accessed by the users registered by the administrator in the database. Administrators will have the sole right of adding users into the database. Then the users can login into the application using their id and password and then perform the functionalities provided can also make use of the search option provided

Database contains information about the users and products. Using the relational database management system (MYSQL), data operations are performed. HTML 5, CSS, JavaScript is used for the designing the user interface. The CRUD operations were done using the spring hibernate integration.

CHAPTER 1

INTRODUCTION

This web application is mainly intended for a supermarket. The application can ease the work of employees in the supermarket as it provides necessary details about the products. The database stores information such item name, category, cost, date of manufacture, expiry date. The Crud operations are performed on this data.

The application starts with a welcome page which redirects to login page. The user can login using the user credentials. Once login is complete, user is provided with four options mainly add product, list products, delete products and make updation. The user is always provided with a search option to search for products based on the name of the product. Logout option is also enabled.

Application is MVC architecture based. MySQL Database 5.0 is used for storing the information about the users and products. Server functionalities were implemented with the help of Tomcat server 7.0. The front end was developed HTML 5, CSS, JavaScript and back-end was mainly based on java and spring hibernate integration. The application can be run on any browser.

Additional functionalities can be added by making necessary alteration in the database design thus making it more flexible.

CHAPTER 2

SOFTWARE REQUIREMENT SPECIFICATION

2.1 SOFTWARE REQUIREMENTS

1. Java 1.8+
2. Tomcat Server 7.0 or above
3. MySQL database 5.0 or above
4. Eclipse IDE / STS 2018-2019
5. Maven 3.0 or above

Java

The Java Development Kit (JDK) is a software development environment which is used to develop java applications and applets. It physically exists. It contains JRE + development tools. JDK is an implementation of any one of the below given Java Platforms released by Oracle corporation: Standard Edition Java Platform, Enterprise Edition Java Platform, Micro Edition Java Platform. The JDK contains a private Java Virtual Machine (JVM) and a few other resources such as an interpreter/loader (Java), a compiler (javac), an archiver (jar), a documentation generator (Javadoc) etc. to complete the development of a Java Application.

Tomcat Server

The Apache Tomcat software is an open source implementation of the Java Servlet, Pages, Java Expression Language and Java Web Socket technologies. The Java Servlet, Java Server Pages, Java Expression Language and Java Web Socket specifications are developed under the Java Community Process. The Apache Tomcat software is developed in an open and participatory environment and released under the Apache License version 2.

MySQL database 5.0

MySQL is a relational database management system. It is based on Structured Query Language. It is a popular language for managing and accessing records in database.

Eclipse IDE

Eclipse is an integrated development environment used in computer programming. It contains a base workspace and an extensible plug-in system for customizing the environment. The Eclipse IDE is famous for our Java Integrated Development Environment. MyEclipse IDE is written in Java and can run o Windows, OS X, Linux and other platforms supporting a compatible JVM.

Maven 3.0

Apache Maven is a software project management and comprehension tool. Based on the concept of a project object model (POM), Maven can manage a project's build, reporting and documentation from a central piece of information.

CHAPTER 3

ARCHITECTURE DESIGN

3.1 Outline of Project

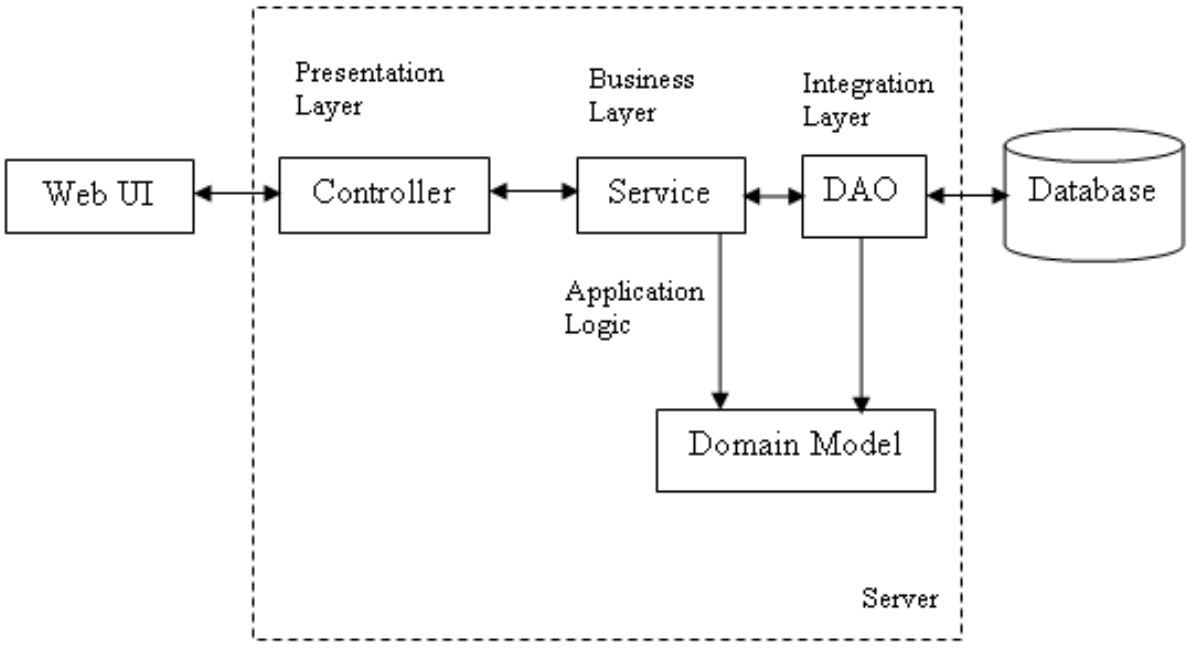

Fig. Project Architecture

This application is build on a three layer pattern :- presentation layer, business layer, persistence or integration layer .Each layer has its own responsibility. The presentation layer contains the graphical design of the application, as well as any code to handle user interaction. No need to add logic that is not specific to the user interface in this layer.

Business layer contains the models and logic that is specific to the business problem are trying to solve.

The application layer sits between the presentation layer and the business layer. On the one hand, it provides an abstraction so that the presentation layer doesn't need to know the business layer. The application layer provides a place to put certain coordination logic that doesn't fit in the business or presentation layer.

Finally, the persistence layer contains the code to access the database layer. The database layer is the underlying database technology (e.g. SQL Server, MongoDB). The persistence layer is the set of code to manipulate the database: SQL statements, connection details, etc.

3.2 Process Flow Diagram

Process Flow Diagram or Flowchart is a diagram which uses geometric symbols and arrows to define the relationships. It is a diagrammatic representation of the algorithm. The Process flow Diagram of our application is shown below:

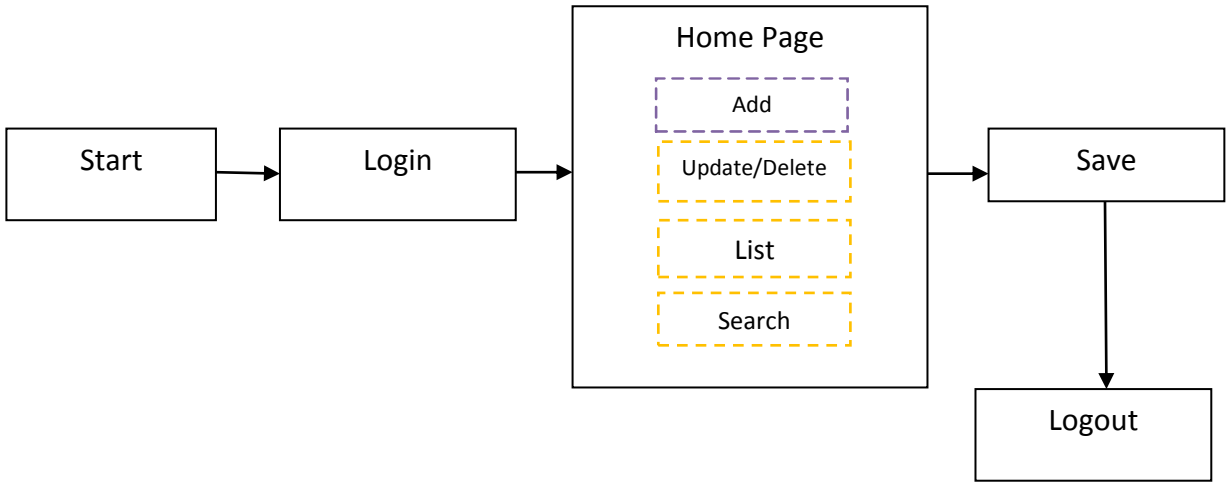

Fig 1. Process Flow

3.3 Project Screenshot

Fig 2.Welcome Page

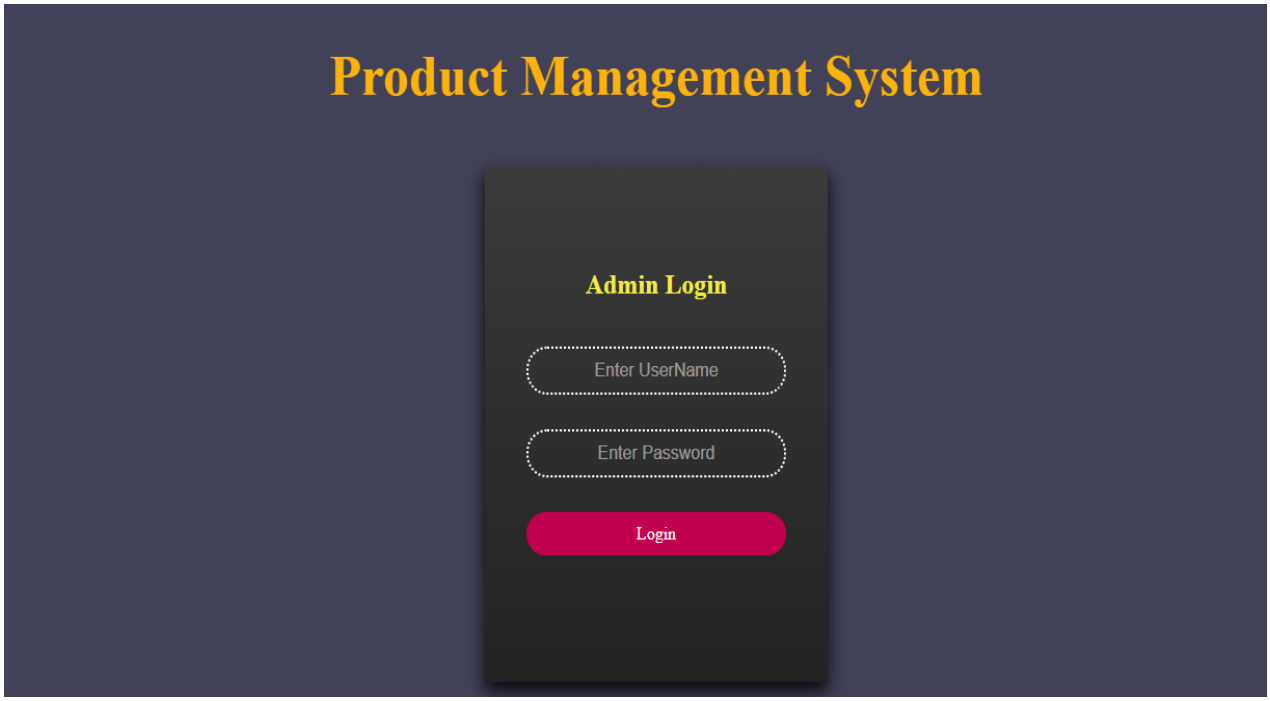

Fig 3. Admin Login Page

Fig 4. Home Page

Fig 5. Add Product

Fig 6. Update Details

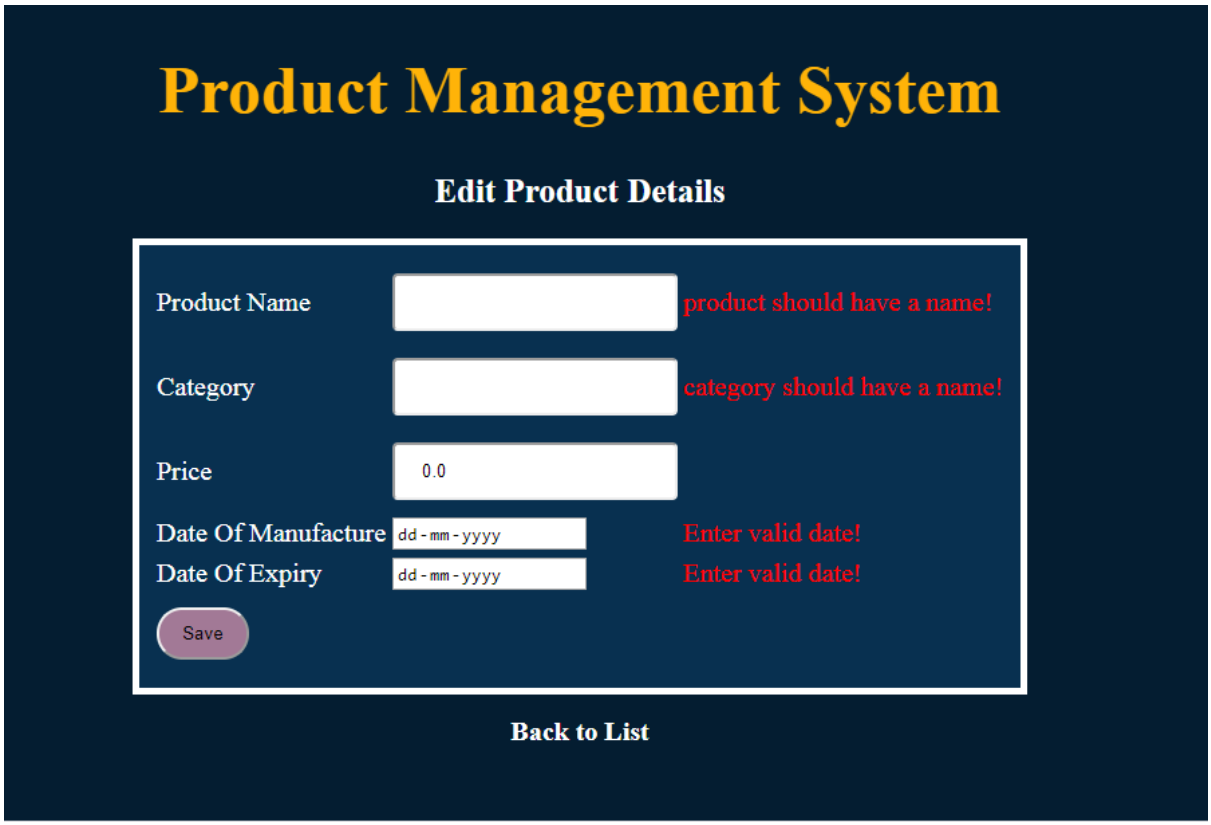

Fig 8. Error when validation fails

Fig 9. Search based on product name

CHAPTER 4

CONCLUSION

We have successfully completed our project in "Product Management System". We have included many features that are necessary for a Product Management System. Our System is help the product man of the store to log in and he get all the information about the available products there and also he can made changes such as add, update, delete the products and also if we want to collect an information about a particular product, we can find it by name. We have included many features that are necessary for a Product Management System.

The features are as follows:

1. Detailed Product Analysis.
2. Product Information Management using the CRUD operations.
3. Finding the product by its name.

While making the software, every effort has been taken to make a very easy to use User Interface. We have tried our best to include as much features as we can available time limit.

Some additional advance features can also be implemented and some of the scope we can increase for the betterment and effectiveness are

- Recording the products information according to their sales for the study of their demand and supply of each products
- More interactive user interface design
- Sales and return system will be added in order to make return of the products.

REFERENCES

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[3] https://docs.spring.io/spring/docs/current/spring-framework-reference/web.html

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