

**A
PROJECT REPORT
ON

CUSTOMER MANAGEMENT**

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CHN19AJ029

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ABSTRACT

Customer management is defined as the process of managing the relationship between an organisation, its people and its customers over time. Customer Management system allows businesses to manage business relationships and the data and information associated with them. The goal of this project was a simple Customer Relationship Management tool, where users with proper authentication and authorization would be able to perform CRUD operations on a customer data set.

This application is developed for a customer manager where he is able to create new customers and also update, delete and retrieve the customer details. It also has a search module where the manager can search the customer names. Spring is one of the most used Java EE Frameworks. Hibernate is also one the most popular ORM frameworks used for mapping domain classes to relational databases. Here technology stack used was Spring - Hibernate combination ,more specifically Java Spring 5, Hibernate, MySQL and basic HTML with CSS.

INTRODUCTION

Customer Management is a widely-implemented strategy for managing a company's interactions with customers .Our exclusive system is to nurture the customer details that will ultimately allow you to better manage resources. Customer Management system allows businesses to manage business relationships and the data and information associated with them. This application is helpful to the department of the organization which maintains data of customers of that organization .It stores all the customer's information in a database. It is an application developed in Java and the database used is MySQL.

In existing system, customer management works on manual process which is a time consuming process and data organizing is not efficient which may increase the occurrence of errors. So in order to provide more efficient application , it can be implemented as a web application which will increase the efficiency of the system and data is stored in the database so accessing data is more secure.

The main aim of Customer Management is to store the details of customers like first name, last name, date of birth, gender, email, phone number in a web-based system. It is an easy to use application and has a user-friendly interface. The admin have the following authorities to add a new customer, search an existing customer, view the customer list, update and delete an existing customer. Here, the admin only has the access rights to change or modify any records. So this makes it a safe and reliable application to use. One of the objectives of developing this application was to reduce the errors that occur in the manual system.

REQUIREMENT SPECIFICATION

1. Java 1.8

Oracle released a new version of Java as Java 8 in March 18, 2014. It was a revolutionary release of the Java for software development platform. It includes various upgrades to the Java programming, JVM, Tools and libraries. The Java Development Kit (JDK) is a software development environment used for developing Java applications and applets. The Java Platform, Standard Edition 8 Development Kit (JDK 8) is a feature release of the Java SE platform. It contains new features and enhancements in many functional areas.

2. Tomcat Server 8.0

The Apache Tomcat software is an open source implementation of the Java Servlet, Java Server Pages, Java Expression Language and Java Web Socket technologies which are developed under the Java Community Process. Tomcat provides a 'pure Java' HTTP web server environment in which Java code can run.

3. MySQL database 6.3

MySQL Workbench is a visual database design tool that integrates SQL development, administration, database design, creation and maintenance into a single integrated development environment for the MySQL database system. This version includes new feature like "fast migration" option to migrate the data from the command-line instead of the GUI.

4. Eclipse IDE 2019-09

Eclipse is an integrated development environment (IDE) used in computer programming.^[6] It contains a base workspace and an extensible plug-in system for customizing the environment. Eclipse is written mostly in Java and its primary use is for developing Java applications. The Eclipse software development kit (SDK), which includes the Java development tools, is meant for Java developers. Users can extend its abilities by installing plug-ins written for the Eclipse Platform, such as development toolkits for other programming languages, and can write and contribute their own plug-in modules.

5. Maven 4.0

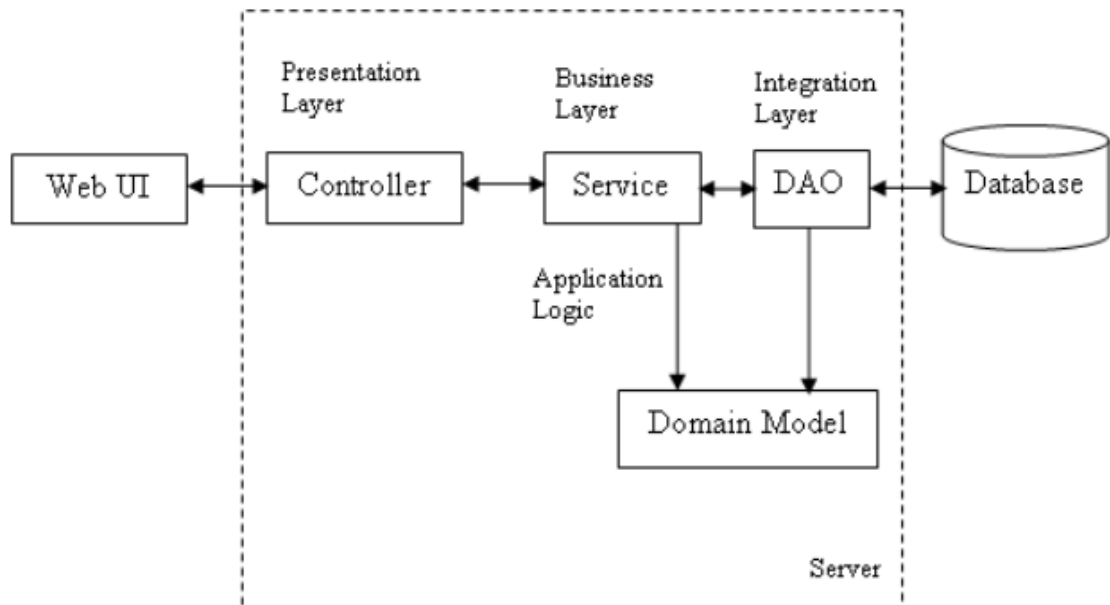
Maven is a build automation tool used primarily for Java projects. Maven addresses two aspects of building software: how software is built, and its dependencies. An XML file describes the software project being built, its dependencies on other external modules and components, the build order, directories, and required plug-ins. Maven is built using a plugin-based architecture that allows it to make use of any application controllable through standard input.

6. JUnit 4

JUnit is a unit testing framework for the Java programming language. A JUnit test fixture is a Java object JUnit has been important in the development of test-driven development. JUnit is linked as a JAR at compile-time; the framework resides under package junit.framework for JUnit 3.8 and earlier and under package org.junit for JUnit 4 and later.

ARCHITECTURAL DESIGN

Outline of the Project



Web application architecture defines the interactions between applications, middleware systems and databases to ensure multiple applications can work together. They act as a special kind of client-server applications, where a large portion of the functionality is pushed back to the server side despite the fact that the Web does not define what is behind the server. The Web-UI provides presentation of content to the end user through GUI. This can be accessed through any type of client device like desktop, laptop, tablet, mobile, thin client, and so on.

In presentation layer the application shows to the user what is needed to be seen and gives the tools for interaction. The exact kind of interaction depends on the application; one can create a web app that only shows information to the

user without any kind of interaction, not even hyperlinks to be clicked, but such a case does not need an advanced architecture. In most cases the user will generate some input, send it for processing and then receive a feedback, that can be the final result or a step for further operations.

The business layer of the model deals with the logic of the program. It receives data from the upper level and transforms it, using in the inner application logics. It also retrieves data from the deepest data level and uses it to the logics. And, by integrating these two processes, it can do modifications in both levels as well.

The deepest level in the layered architecture is the integration layer, this deal with data retrieval from its sources. It is an abstraction to get the plain data that can be in a wide variety of forms. Once again, it plays a huge role on the reusability and exchange of technologies: if one data source is changed to another, but the proper data is still the same, a good layered design can help by providing the same data to the upper level with the same interfaces, changing only its inner logic.

Technology across different layers

Technology Layer	Category
Presentation Layer / Web UI	HTML5, CSS3, Javascript, JSTL, Spring MVC UI Components etc.
Middleware Layer	Spring MVC components
Persistence provider	Hibernate with MySQL 5+ version database

OUTPUT

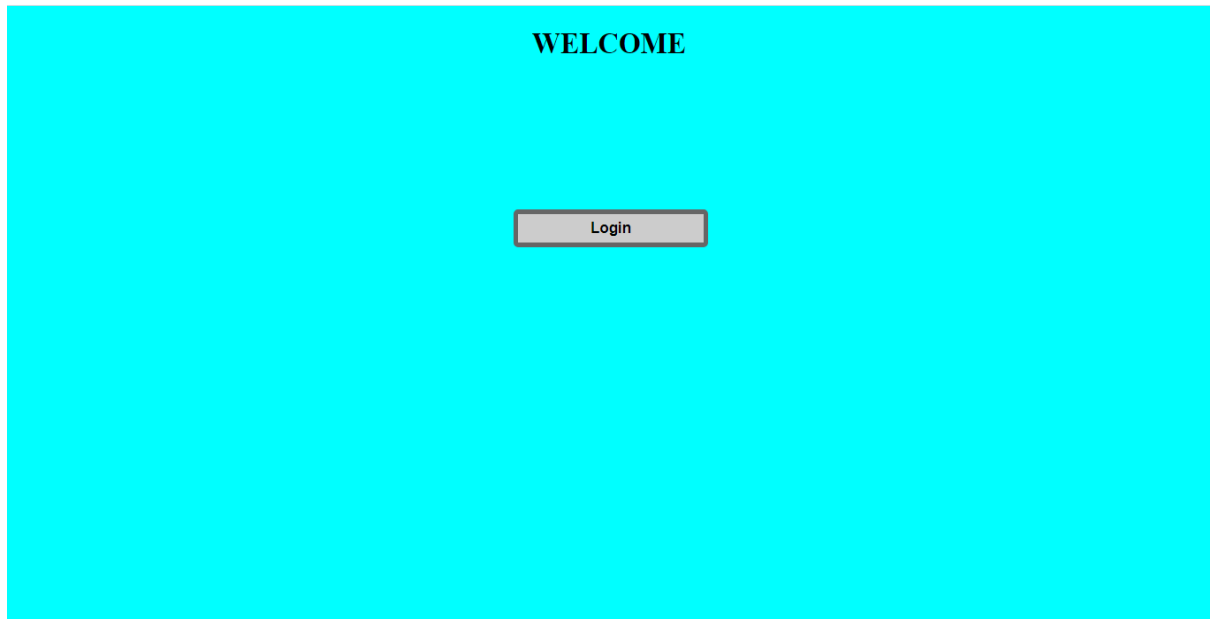


Fig. Welcome Page

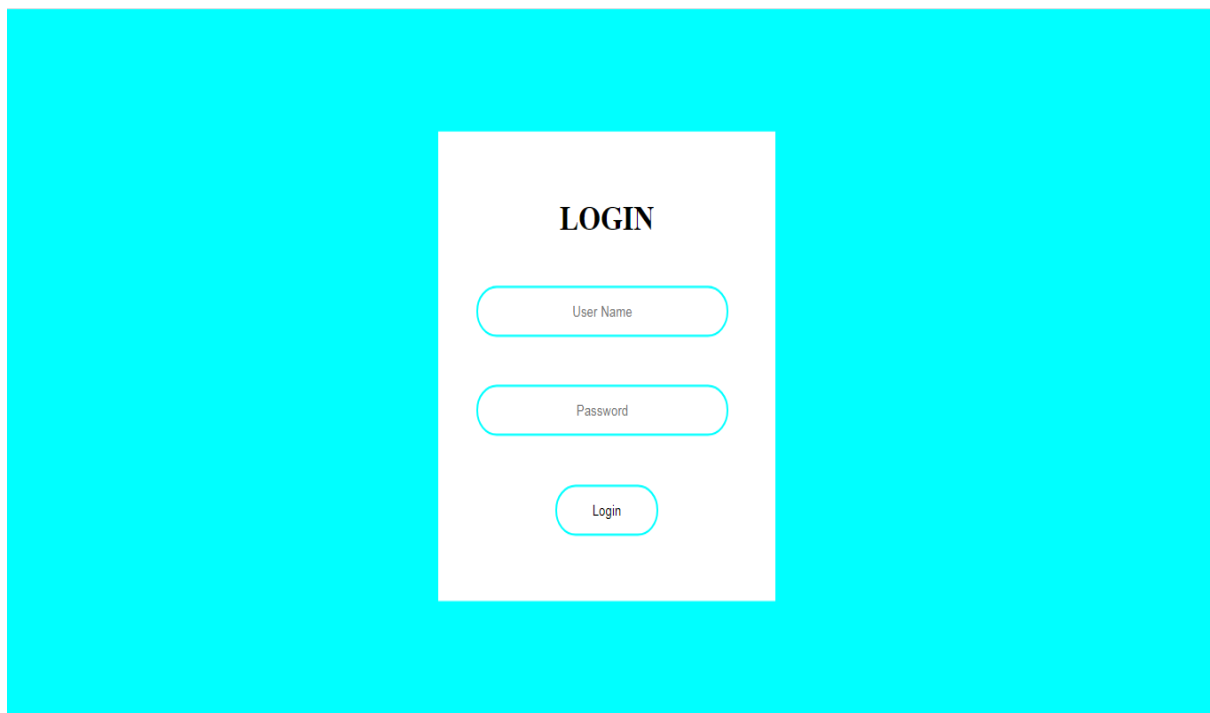


Fig:Login Page

Customer Manager

Add customer

Logout

FirstName	LastName	Date of Birth	Gender	Email	Phone	Action
Anaya	Nair	1997-04-04	F	anaya123@gmail.com	4567891123	Update Delete
Appu	Jose	1998-09-24	M	appu@gmail.com	7632145689	Update Delete
Kajol	Singh	1990-10-09	F	kajol@gmail.com	8469752314	Update Delete
Manoj	Kumar	1989-05-21	M	manoj@gmail.com	785423691	Update Delete
Sini	Paul	1999-08-17	F	sini@gmail.com	8462137946	Update Delete

Fig.Customer List

Back to List

CUSTOMER DATA

First Name

Last Name

Date of Birth

dd - mm - yyyy

Gender

☐ Male
 ☐ Female

Email

Phone no

Submit

Fig.Add Customer

Customer Manager

Add customer
Logout

FirstName	LastName	Date of Birth	Gender	Email	Phone	Action
Anaya	Nair	1997-04-04	F	anaya123@gmail.com	4567891123	Update Delete

Fig.Search based on customer name

CUSTOMER DATA

First Name

Last Name

Date of Birth

Gender

☐ Male
☒ Female

Email

Phone no

[Back to List](#)

Fig.Update customer

[Back to List](#)

CUSTOMER DATA

First Name

first name cannot be null

Last Name

last name cannot be null

Date of Birth

dd - mm - yyyy

Please Enter Valid Date

Gender

☐ Male

☐ Female

gender cannot be null

Email

email cannot be null

Phone no

Phn no cannot be null

Submit

Fig.Error when validation fails

LOGIN

User Name

Password

Login

Invalid Credentials

Fig.Invalid login

CONCLUSION AND FUTURE SCOPE

In existing system, customer management works on manual process which is a time taking process and data organizing is not efficient. So in order to provide more efficient application using Java ,HTML and CSS, it can be implemented as a web application which will increase the efficiency of the system and data is stored in the database so accessing data is more secure.

I have successfully completed my project in “Customer Management”.I have included many features that are necessary for an Customer Management System. The features were detailed customer analysis, customer information management using the CRUD operations and finding the customer by its name.This project simplifies the task of maintain records because its users friendly nature. This web application is supported to eliminate and in some cases reduce the hardships faced by this existing system.

Some additional advance features can also be implemented and some of the scope we can increase for the betterment and effectiveness are recording the customers information according to their sales, more interactive user interface design, allowances and medical details.

REFERENCES

1. <https://docs.spring.io/spring/docs/current/spring-framework-reference/>
2. <https://docs.spring.io/spring/docs/current/spring-framework-reference/core.html#spring-core>
3. <https://docs.spring.io/spring/docs/current/spring-framework-reference/web.html>
4. <https://hibernate.org/orm/documentation/5.0/>
5. <https://maven.apache.org/guides/getting-started/index.html>