FASHGEN DOCUMENTAION

E-Commerce Portal

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AUGUST 20, 2017

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Chapter1

INTRODUCTION

E-commerce is fast gaining ground as an accepted and used business paradigm. More and more business houses are implementing web sites providing functionality for performing commercial transactions over the web. It is reasonable to say that the process of shopping on the web is becoming commonplace.

1.1 OBJECTIVE OF THE SYSTEM

The objective of this project is to develop a general purpose e-commerce store where clothing products like Jeans, T-shirts, Jackets, e.tc. Can be bought from the comfort of home through the Internet. However, for implementation purposes, this project will deal with an online shopping for electronic projects. An online store is a virtual store on the Internet where customers can browse the catalog and select products of interest. The selected items may be collected in a shopping cart. At checkout time, the items in the shopping cart will be presented as an order. At that time, more information will be needed to complete the transaction. Usually, the customer will be asked to fill or select a shipping address, and order details along with order number is shown to the customer as soon as the order is placed.

1.2 JUSTIFICATION

In today's market, it is extremely difficult to start a new small scale business and its sustenance with competition from the well-established and settled/brand owners. Most often, even if the quality of the product is really good, due to a lack of advertisement or business at the small scale, it just becomes another face in the sea, and the product does not reach a larger group of customers. In fast paced life of today when everyone is squeezed for time, the majority of people are finicky when it comes to doing physical shopping. Logistically, a consumer finds a product more interesting and attractive when they find it on the website of a retailer directly and are able to see item's details online. The customers of today are not only attracted because online shopping is very convenient, but also because they have broader selections, highly competitive prices, better information about the product and extremely simplified navigation for searching regarding the product.

1.3 OVERALL DESCRIPTION

1.3.1 Description:
➢ Any visitor can register and view available products.
➢ Only registered member can purchase multiple products regardless of quantity.
➢ AboutUs page is available to show information about company.

- There are three roles available: Visitor, Customer and Vendor.
- Visitor can view available products.
- Customer can view and purchase products.
- A Vendor has some extra privilege including all privilege of visitor and customer.
  - Only Vendor can access the Vendor Page.
  - Vendor can add products, edit product information and add/remove product.

1.3.2 Using the code:

1. Import Project folder in eclipse.
2. Configure Apache tomcat server.
3. Configure H2 console.
4. Run the Project on the server.

1.3.3 Web Pages Using JSP Technology:

1. AboutUs page
2. Cart page
3. CustomerSignUpPage page
4. DisplayProduct page
5. EditProduct page
6. Footer page
7. Header page
8. Home page
9. InvalidAuthorisation page
10. Login page
11. OrderDetails page
12. ProductForm page
13. ShippingForm page
14. VendorSignUp page
15. ViewProduct page

Chapter 2

DESIGN OF THE SYSTEM

2.1 System Requirements (Hardware &Software)

2.1.1 Hardware:

This web application shall provide minimum hardware requirements. The following hardware configurations are required for a PC using the online E-commerce application:

- ➢ Pentium processor
- ➢ 256 MB of free hard-drive space
- ➢ 512 MB of RAM

2.1.2 Software:

This section lists the requirements that are needed to run the system efficiently. The operating system needed for the system to run effectively, the interface to run the application, the driver for running Java web applications, the integrated development environment to develop the application, and the third-party tool used for editing purposes are as follows:

- ➢ Operating System: Windows (Vista/Windows 7, 8, 10) or MAC OS 2.
- ➢ Web Brower: Internet Explorer, Mozilla Firefox, or Google Chrome.
- ➢ Drivers: Java Runtime Environment, Maven.
- ➢ Integrated Development Environment: Eclipse Mars, Apache Tomcat.

2.2 USE CASE DIAGRAM

2.2.1 Vendor
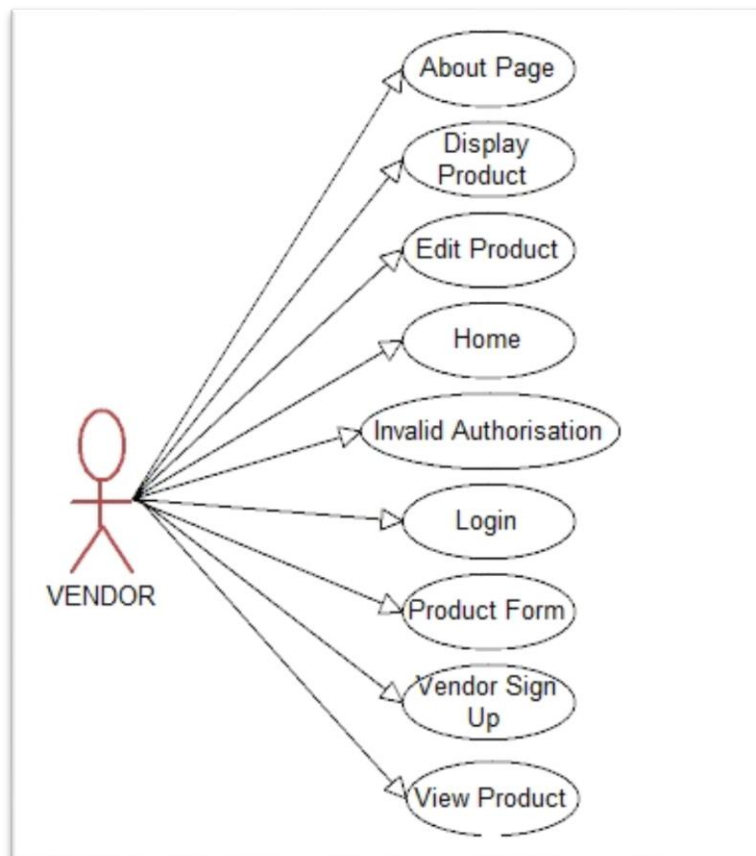
Vendor: The Vendor is the seller in this application. One must have a basic understanding of computers and the internet as well as prior knowledge for operating the eclipse and Java programming languages. The Vendor is responsible for maintaining all the training documents required for the system. The Vendor can perform the following functions:

➢ Admin can add products, edit product information and add/remove product.

2.2.2 Customer
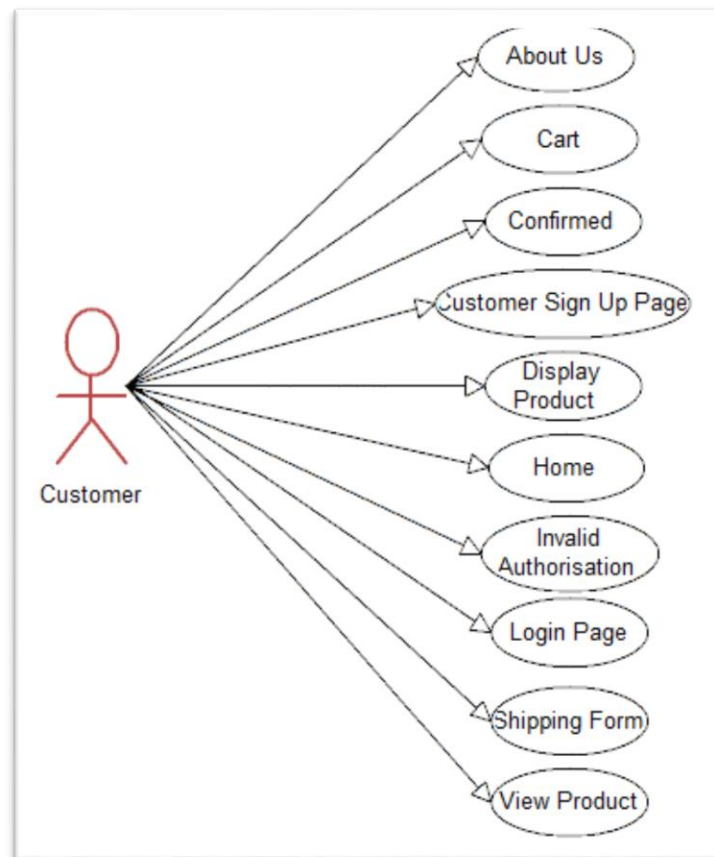
Customer: all customers who would shop to test the application. These users are anyone with shopping experience and the know-how to browse through a shopping-cart application. They must have basic understandings about computers and the internet. The users should be able to perform the following functions using this system:

- ➢ View, browse, and select a category on the home page.
- ➢ View, add, and update items in the cart.
- ➢ Delete items from the cart.
- ➢ Check out the items from the application or continue shopping.
- ➢ Sign-on/login using a username and password.
- ➢ Place the order by completing the order form

2.3 SOFTWARE ARCHITECTURE

The diagram below shows the Software's broad architecture.

ONLINE SHOPPING -3 LAYER ARCHITECTURE
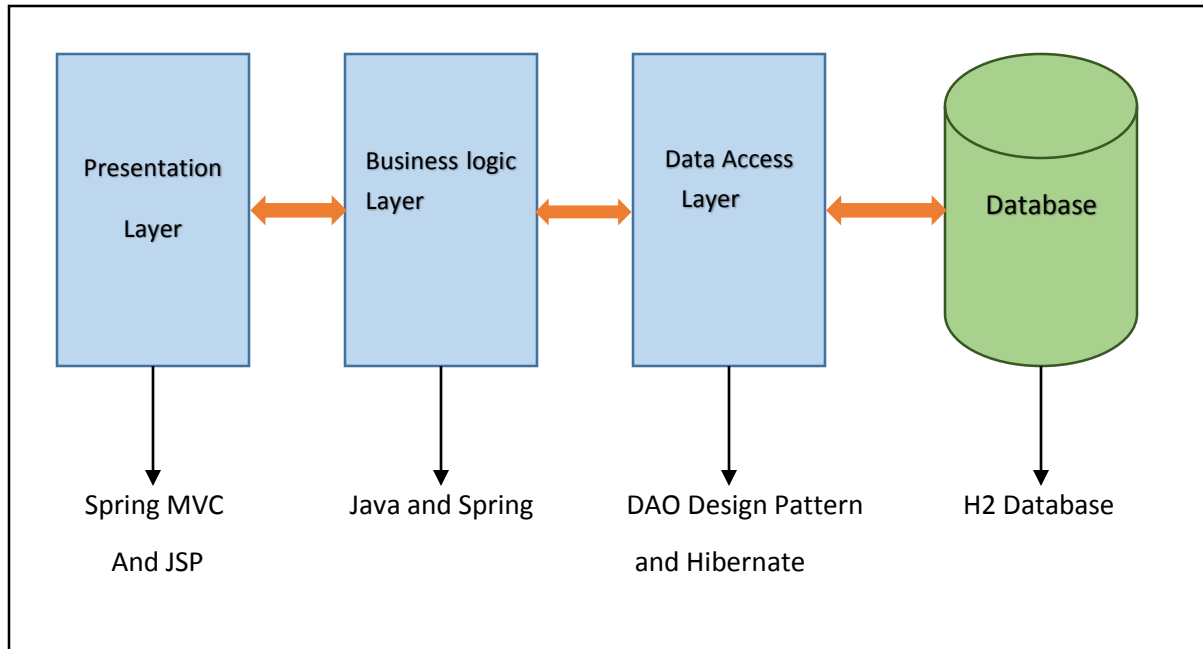
General Activity Diagram for Web Application
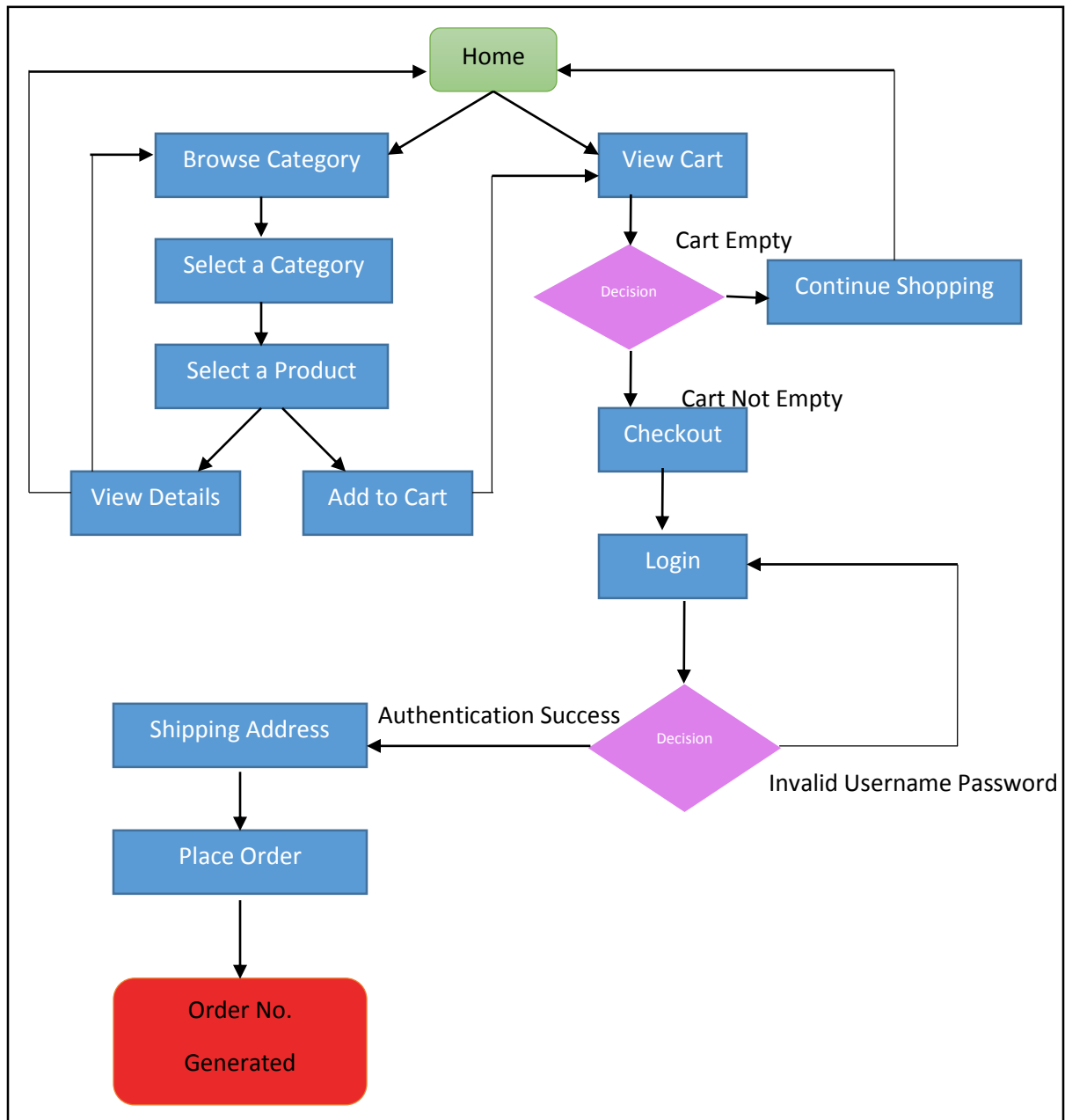
Chapter 3

IMPLEMENTATION

This project is divided into two part: frontend as in the frontend of the project and Backend as in the Backend of the project. The Backend is used for database configuration. Here, DAO Design Pattern is used to do CRUD operation on the Database. H2 Database is used to store data in Database for this project. JSP and Bootstrap is used in the frontend.

3.1 To implement Spring MVC

The Spring web MVC framework provides model-view-controller architecture and ready components that can be used to develop flexible and loosely coupled web applications. The MVC pattern results in separating the different aspects of the application inputlogic, businesslogic,and UIlogic, while providing a loose coupling between these elements.

- ➢ The **Model** encapsulates the application data and in general they will consist of POJO.
- ➢ The **View** is responsible for rendering the model data and in general it generates HTML output that the client's browser can interpret.
- ➢ The **Controller** is responsible for processing user requests and building appropriate model and passes it to the view for rendering.

In Frontend

- ➢ **Dependencies:** Spring-web, Spring-webmvc.
- ➢ **Configuration:** Dispatcher-servlet.xml(Few Changes in Web.xml).
- ➢ **Controllers added in com.project.controllers package**.

3.2 To Configure Database

JDBC stands for **Java Database Connectivity**. It provides a set of Java API for accessing the relational databases from Java program. These Java APIs enables Java programs to execute SQL statements and interact with any SQL compliant database.

ORM stands for **Object-Relational Mapping (ORM)** is a programming technique for converting data between relational databases and object oriented programming languages such as Java, C#, etc.

Hibernate is an Object-Relational Mapping (ORM) solution for JAVA. It is an open source persistent framework created by Gavin King in 2001. It is a powerful, high performance Object-Relational Persistence and Query service for any Java Application.

Hibernate maps Java classes to database tables and from Java data types to SQL data types and relieves the developer from 95% of common data persistence related programming tasks.

In Backend

- ➢ **Dependencies:** Hibernate-core, H2, Commons-dbcp, Springorm.
- ➢ **Configuration:** DBConfig.java(Database).

In Frontend

- ➢ **Dependencies**: jstl, javax.servlet-api, Backend.
- ➢ **Plugins**: maven compiler, maven war.

3.3 To implement Validations

In Backend (Backend)

- ➢ **Dependencies**: validation-api, hibernate-validator.

3.4 To implement Image Upload

In Backend

- ➢ **Dependencies:** commons-io, commons-fileupload.

In Frontend

- ➢ **MultipartResolver added in Dispatcher-servlet.xml**.

3.5 To implement Spring Security

In Frontend

Dependencies: Spring-security-web, Spring-security-config

Configuration: Security-security.xml **(Few changes in Web.xml)**

<u>Chapter 4</u>

SCREENSHOTS OF THE PROJECT

4.1 Output Screens
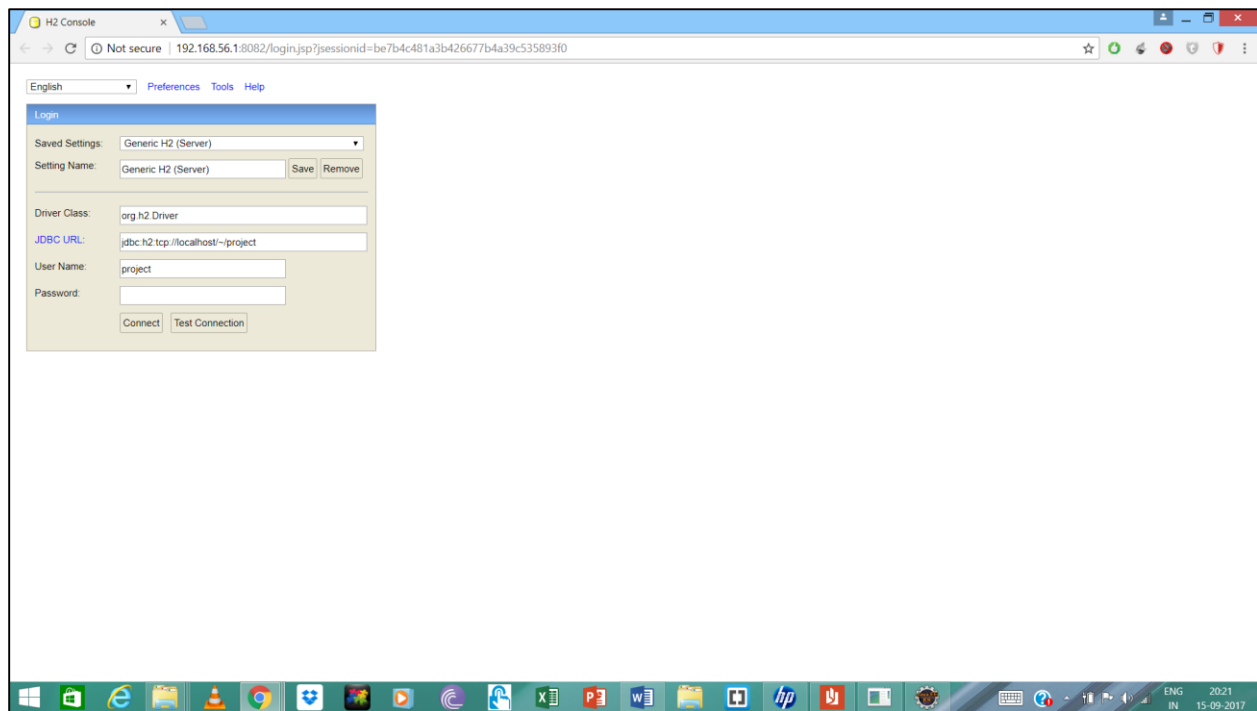
Figure 1
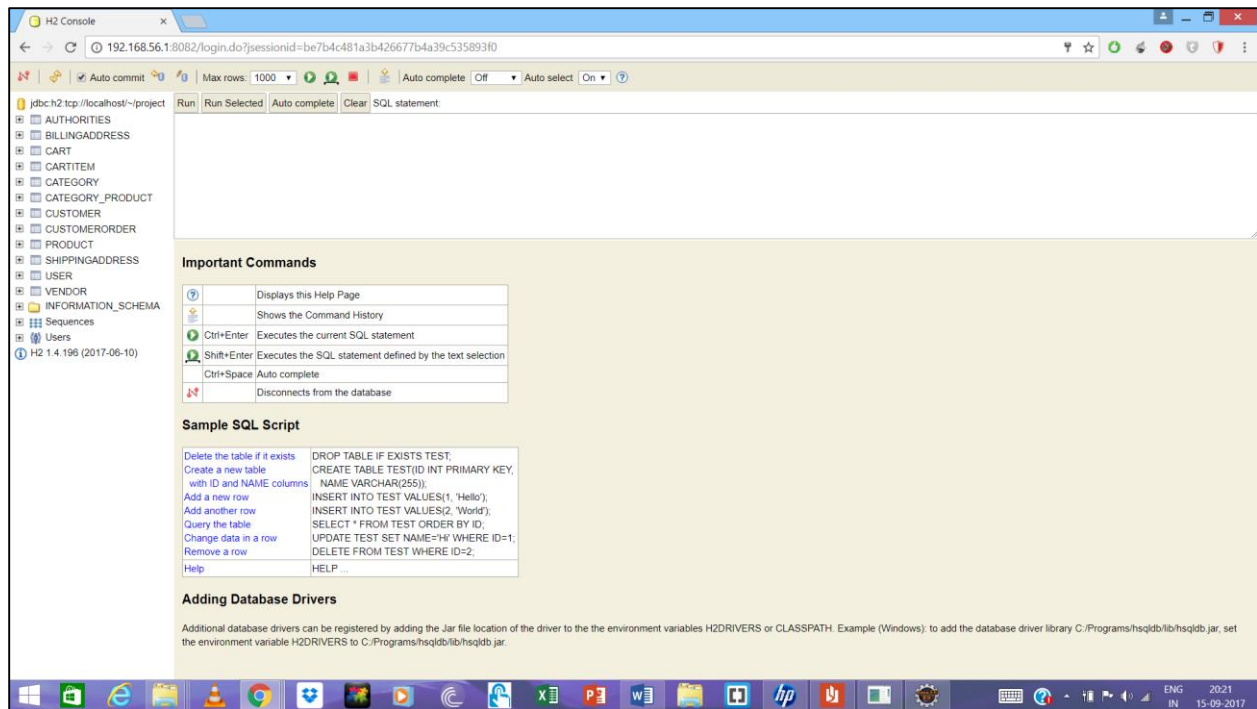
Figure 2

H2 database: It is only Accessible to the creator of this web Application. He/ She can Change the database manually form Backend side i.e., H2 Database Server Panel.
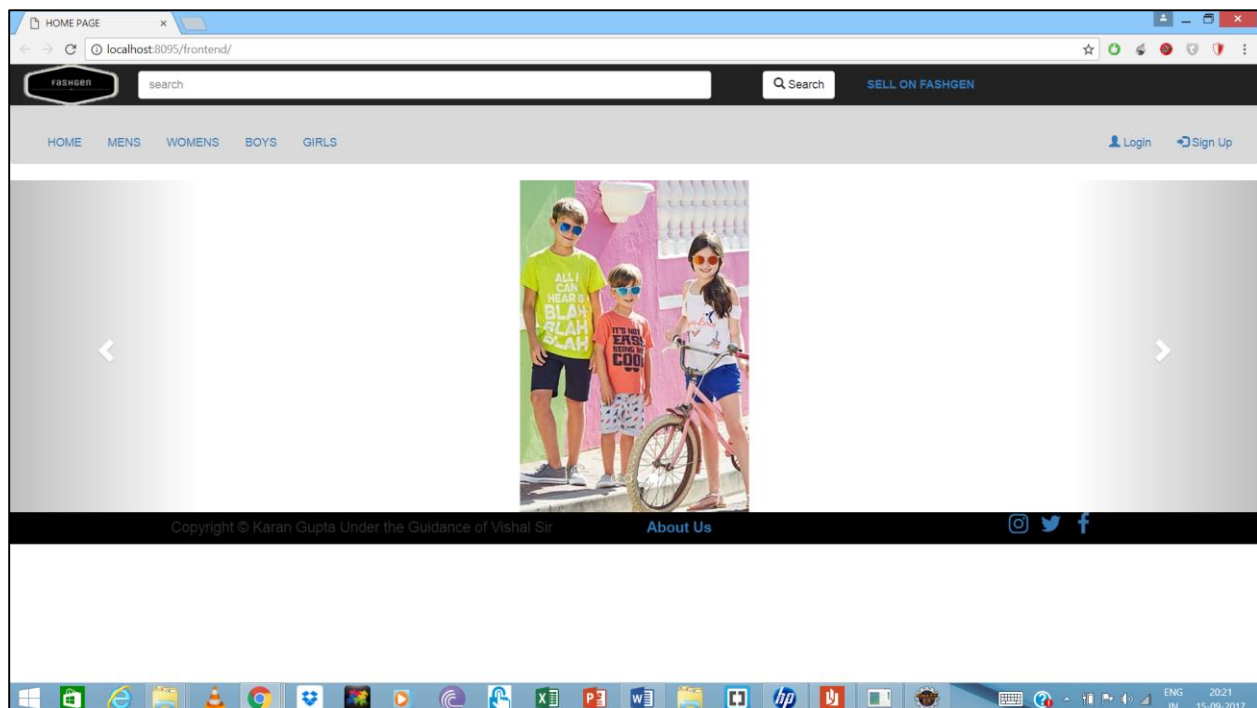
Figure 3

Home Page: The home page of the application is common to all the visitors/customers/vendors.

At the Time of Logging the Home page Divides for two Authenticators i.e. Customer and Vendor:-

1. **_Customer_**- He/ She can only Access customer Pages such as Viewing of product, cart pages etc. Furthermore Customer Can see in the navbar Cart option to see cart Items and Logout Option for logging Out
2. **_Vendor_**-He/She can only Access Vendor Oriented Pages Such as View pages **(Only for Details of Product Not for purchase)**.They have separate Sections as Product Operations in the **Navbar (It will be available in Later of screen Shots)**.Then they Have Logout Access too.
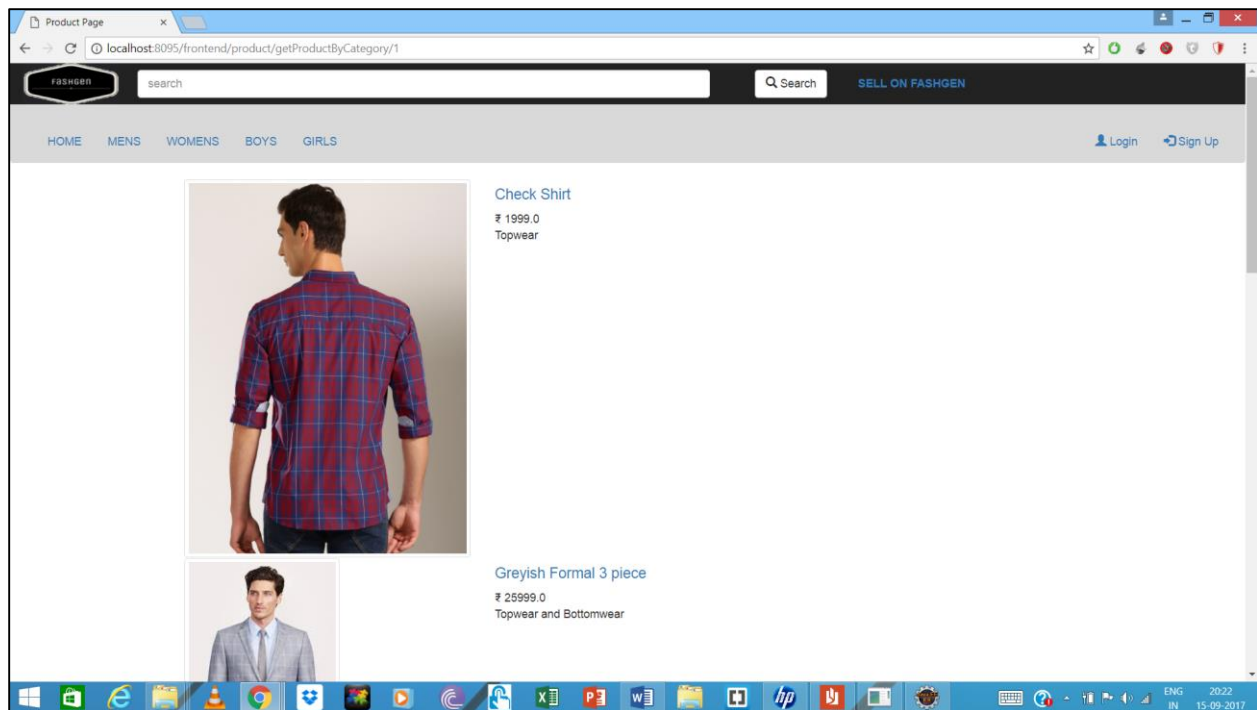
Figure 4

Category Page/ Display Page: This Page is called when the visitors/customers/vendors calls particular category from Database Such as Girls/Boys/Women/Men's. Then It shows only one Category from the Databases
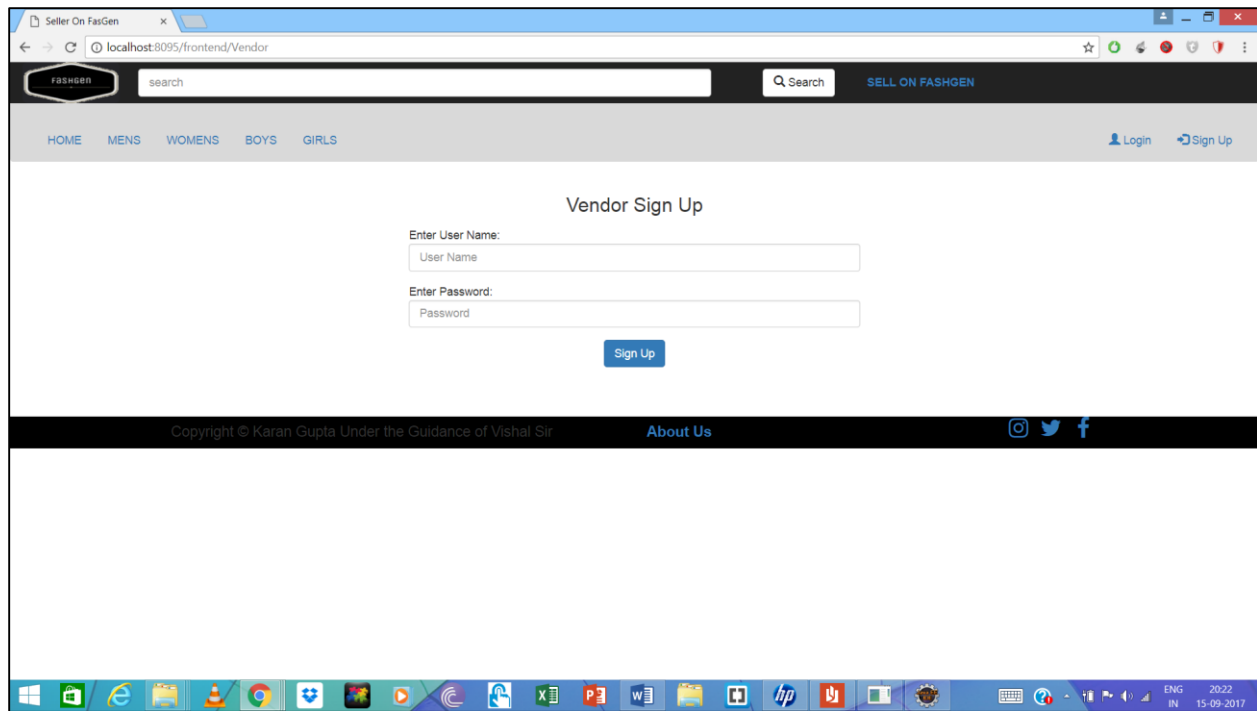
Figure 5

Vender sign up Page: This page Gives opportunity to several vendors to expand their business through Digitization.
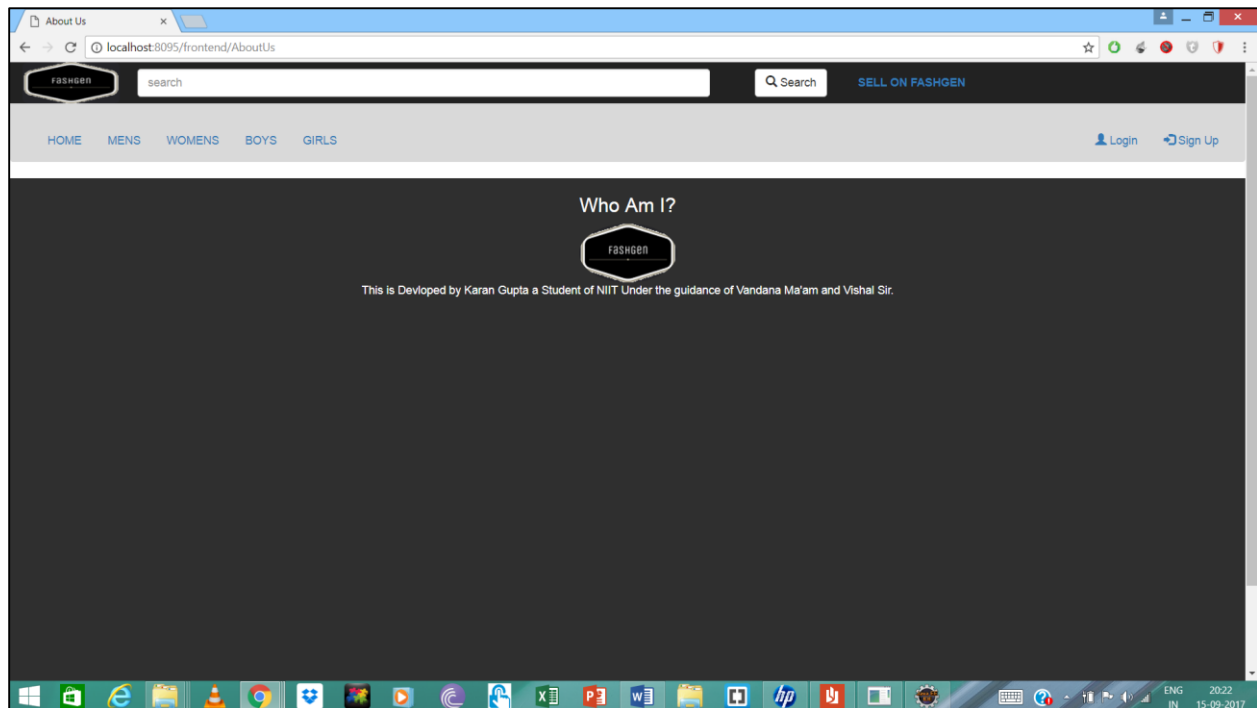
Figure 6

About us Page: This Page Gives the information about Developer's and Creator of Application.

Figure 7

Customer Sign Up Page: This Page offers to the new generation to purchase apparels to their conformability from home just they have to Sign up here.

Figure 8

Login Page: It is the com portal login for the customer and vendor after login in they will get different options according to their category i.e, is Customer or Vendor.
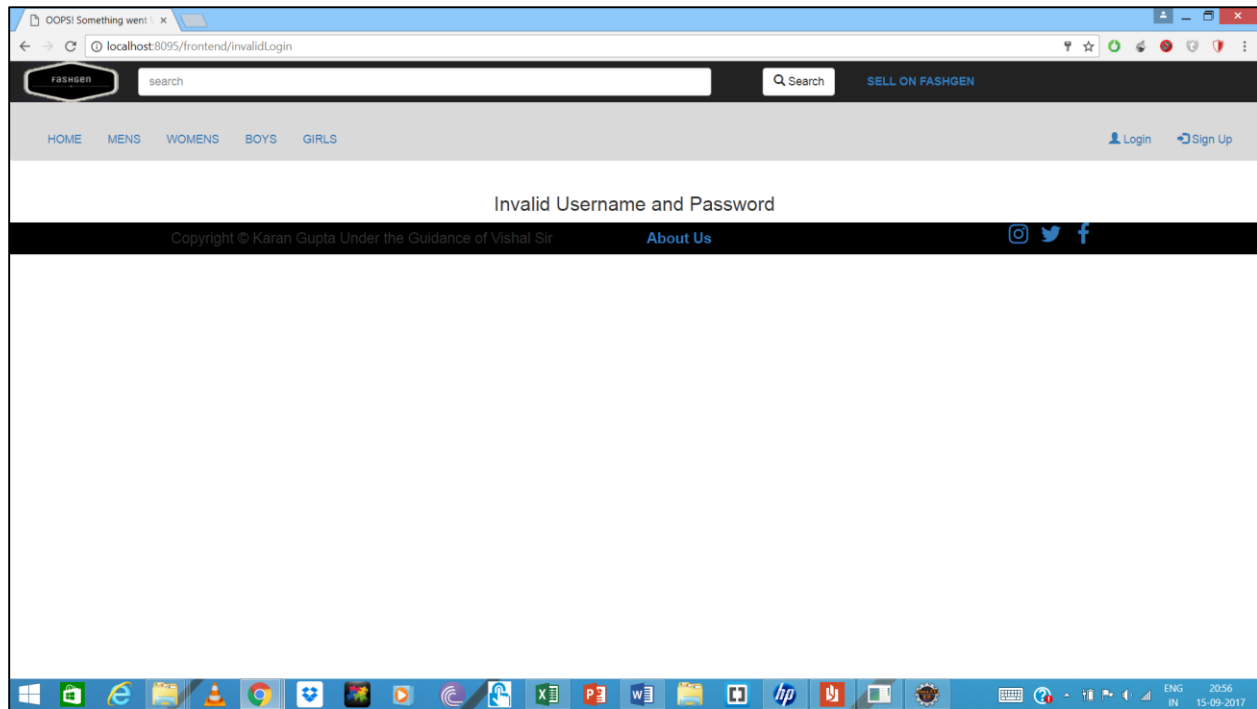
Figure 9

Invalid Authorization Page: It tells the user that Login Process has been failed.

4.1.1 Customer Pages
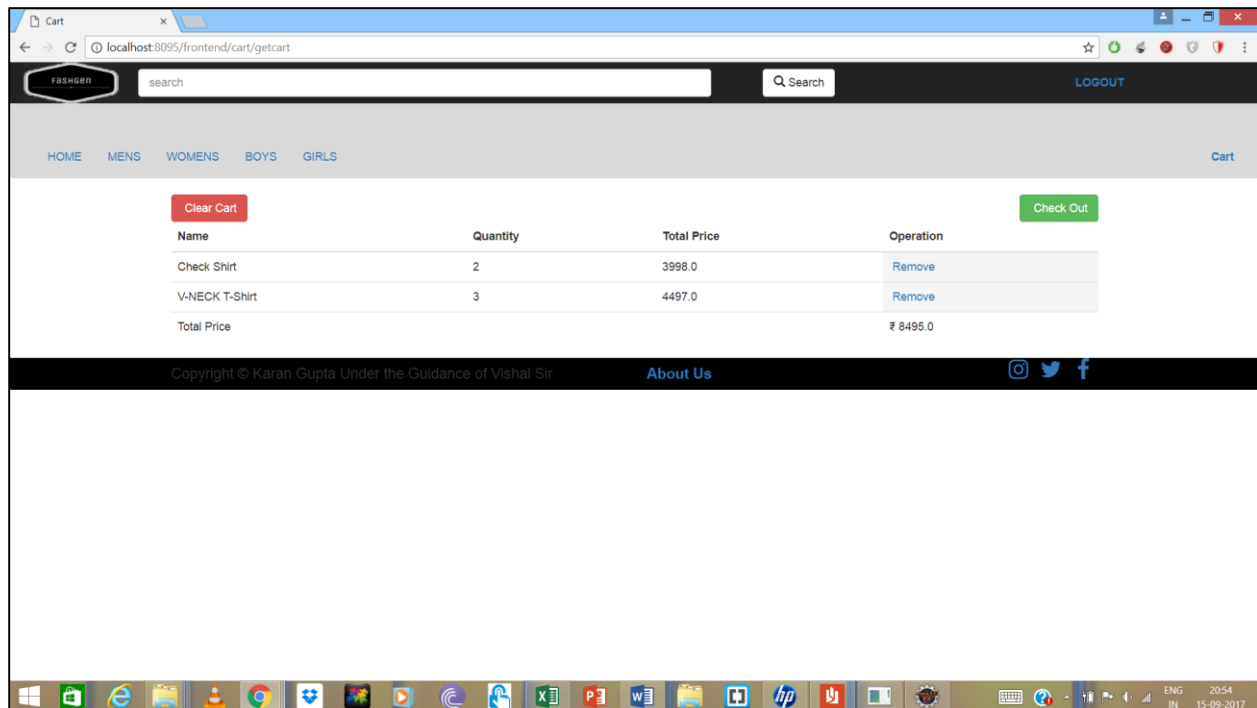
Figure 10

__Cart Page__: This page Show the particular Cart for the customer who has logged in to the current sessions.
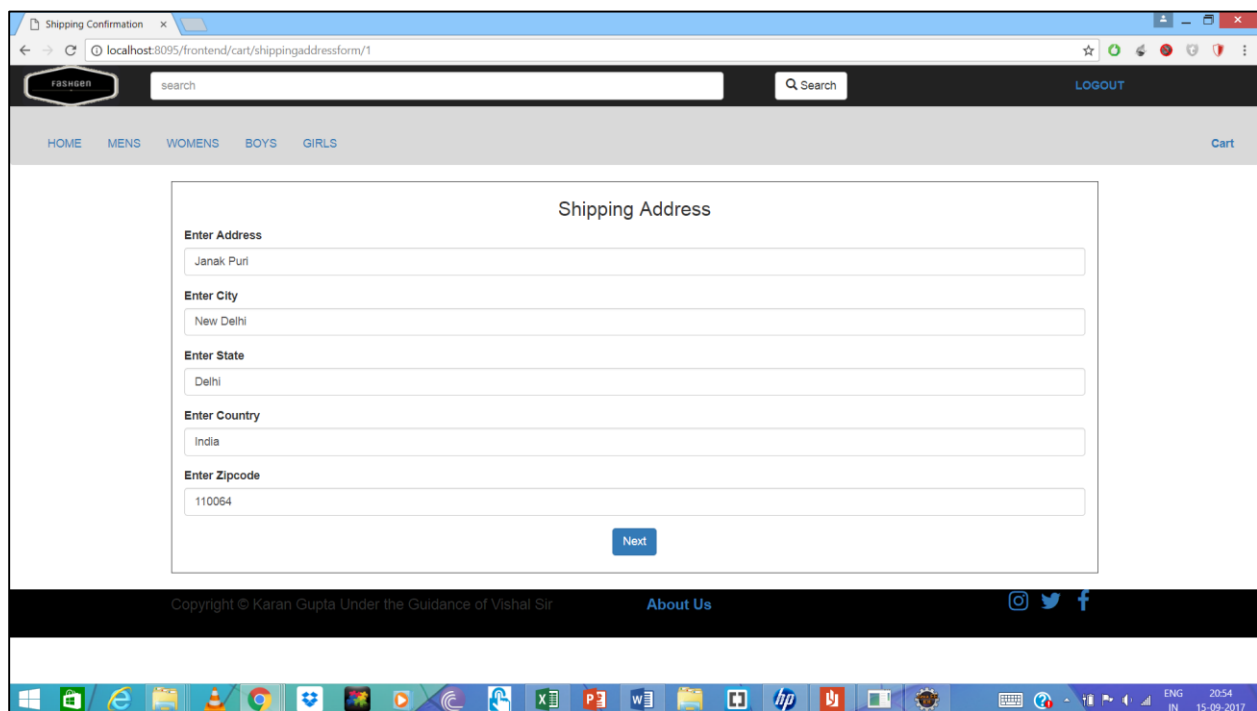
Figure 11

Shipping Address page: The Customer Can change his/her Shipping Address at the time of Order
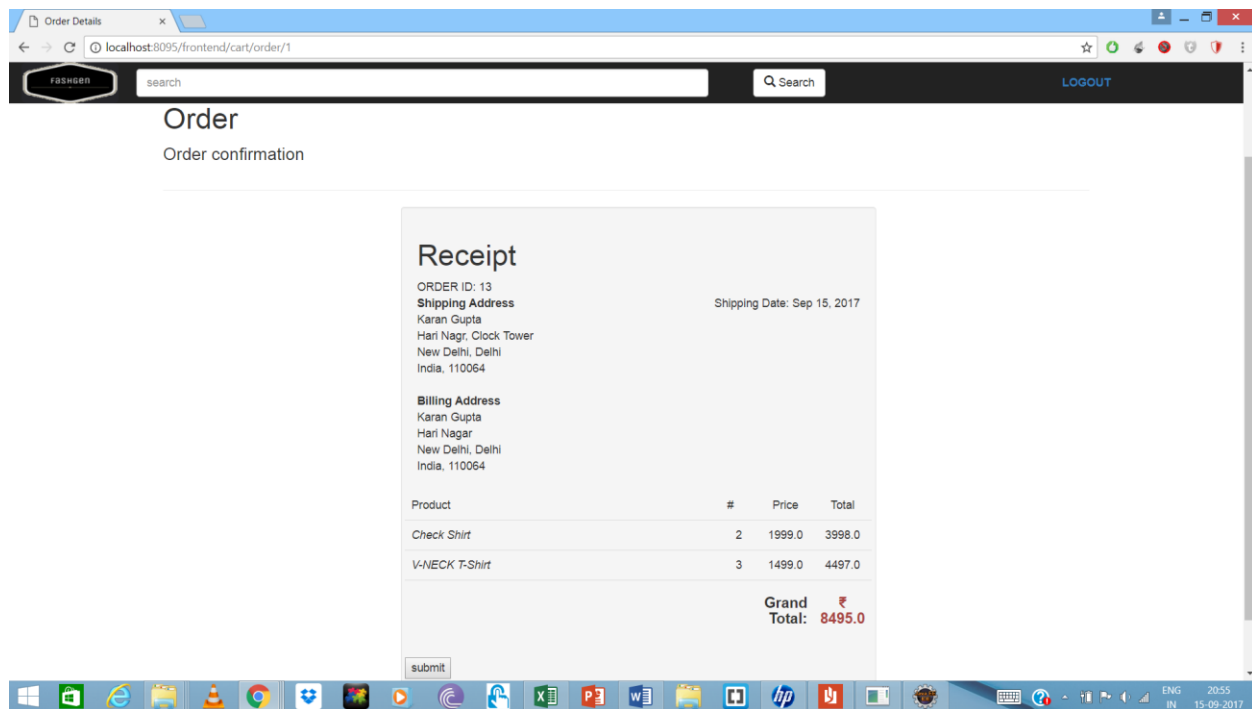
Figure 12

Order Page: It Ask about the Confirmation for the Order
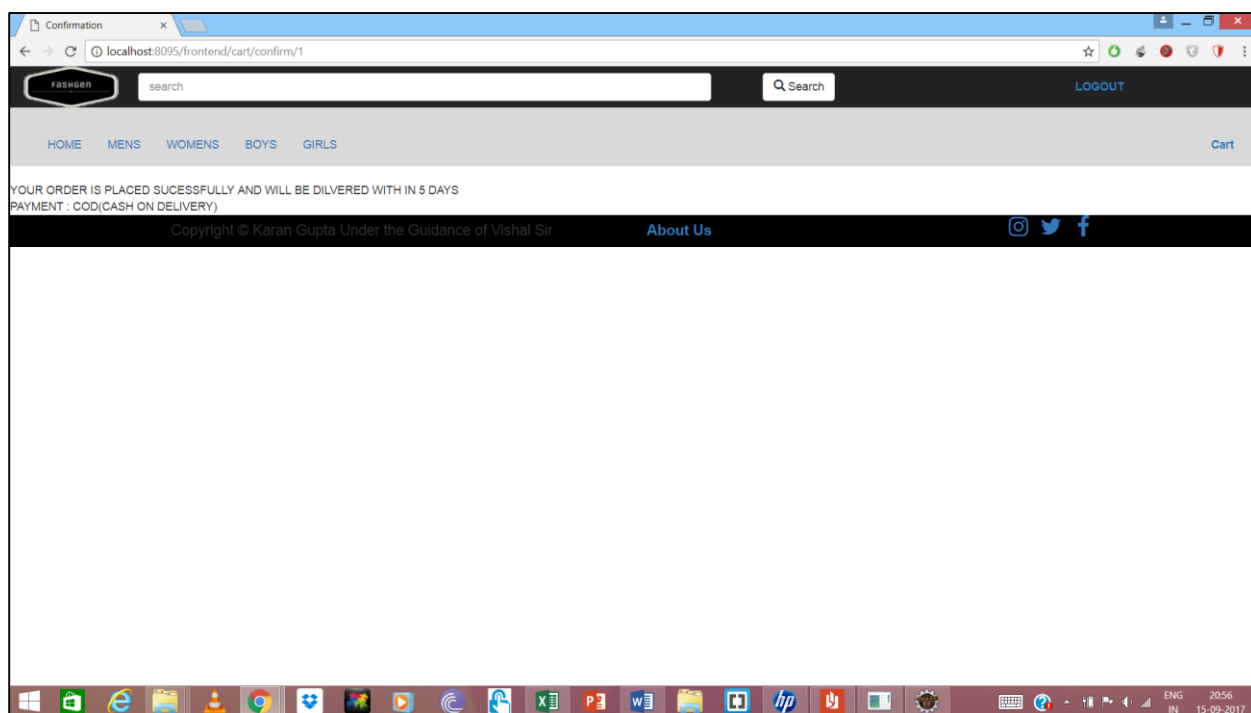
Figure 13

__Confirmed Page__: Basic Function of this Page is to aware the Customer About Mode of Payment And Delivery of the Order

4.1.2 Vendor Pages

Figure 14

Figure 15

Product Form Page: This page Provides to facilties i.e, Product Insertion and Table of operation fo products:

1. Production Insertion-It genrally provides the insertion function to the vendor and add images to the product.
2. Table of opertion of product-It is the databse table for the vendor to see the products and apply some operations such as edit and delete the product.

Figure 16

Edit Form Page: This Pages Ensures all the editing of the particular product.

<u>Chapter 5</u>

<u>Over-all Development and References</u>

5.1 CONCLUSION

This project helps in understanding the creation of an interactive web page and the technologies used to implement it. The different types of technologies used while making this Web Application are HTML5, BOOTSTRAP, Maven, Spring MVC, Spring Security, Spring ORM, Hibernate and H2 database.

 A good shopping cart design has been accompanied with user-friendly shopping cart application logic. It should be convenient for the customer to view the contents of their cart and to be able to remove or add items to their cart. The shopping cart described in this project provides a number of features that are designed to make the customer more comfortable.

5.2 FUTURE SCOPE

The following section discusses the work that will be implemented with future releases of the software.

- ➤ Detailed categories: Future work could involve adding more categories which are more detailed and have additional items.
- ➤ Watch/Wish List: Work can add a watch list or wish list so that users can add an item to a list to watch for item prices to go down or to see when there is a sale on any of those items.
- ➤ Enhanced User Interface: Work on enhancing the user interface by adding more user interactive features.
- ➤ Machine Learning Techniques: Add a bar that would display the most-recommended items which would depend on the number of times an item has been purchased or searched by any users.
- ➤ Search Bar: Facility for user with search bar with modern search techniques according to AI (Artificial Intelligence).
- ➤ Big Data Analytics: Applying Hadoop, Hive, openStack e.t.c technologies for good Analytics for the company to improve services to sell products online for user friend compatibility with customer
- ➤ Profile Allocations: Allotting each Customer/Vendor a proper profile Facility for better connectivity with web application to understand its features.
- ➤ AI Bots: It will be available for customer for any help desk required.
- ➤ Payment Options: Add different payment options, such as Visa, MasterCard, PayPal, etc., where a user can also save the card information for later checkouts.
- ➤ Shipping Options: Add different types of shipping options: regular shipping, expedited shipping, international shipping, etc.
- ➤ Recent History: Display the user's recently browsed items in the recent history tab.

5.3 References

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