Software Requirement Specification (SRS) Document Online Shopping System

**Table of Contents**

|  |  |  |
| --- | --- | --- |
| **S.NO** | **TOPIC** | **PAGE NUMBER** |
|  | System Overview | 3 |
|  | Technical Requirements | 3 |
|  | Acceptance Criteria | 6 |
|  | Validation/Verification | 12 |
|  | Requirements Consideration | 13 |

**1. System Overview**

This system provides an easy solution for customers to buy the product without going to the shop and to shop owner to sale the product. This system necessitates the upkeep of its own database. For server-side functionality, information or details about the items are saved in a database (such RDBMS, online databases on a paid basis like Firebase, etc.). The Server process is responsible for dealing with client information as well as things that are dispatched to various places based on the addresses given by customers.

One of the modules in the application design is for clients who want to buy the content. Another category is for business owners who keep track of and update information on articles and clients. The end-users of this product are ordinary individuals for whom the program will be hosted on the web, as well as the administrator.

The information about the items is highlighted and forwarded from the database for the customer (front view) based on the choice through the menu list, and the database of all the products is updated at the end of each transaction, thanks to the application that is deployed on the customer's database like RDBMS.

Products may be entered into the program through a variety of screens tailored for different levels of users. Several reports are created based on the security policy applied as soon as authorized staff enters the required data into the system.

**2. Technical Requirements**

To construct this website a multitude of technologies must be examined and mastered like, JSP, HTML, CSS, JAVA SCRIPT, ANDROID. This is a project with the objective to develop a basic website where a consumer is provided with a shopping cart application and to know about the technologies used to develop such an application.

**FUNCTIONAL REQUIREMNTS:**

The top 5 functional requirements for ecommerce design are:

* Speed – Customers want lightning-fast load speeds.
* Mobile Friendliness – Make sure your responsive implementation is well-done since a clumsy mobile experience degrades the quality of your business for the fast-paced shopper.
* Focus on simplicity of use in the checkout flow; make sure you don't add any needless steps to finish the transaction. Make it a goal to have a one-click experience.
* Personalization – By integrating a third-party personalization solution into your ecommerce platform, you can increase sales by up to 59 percent.
* Accessibility – Follow the universal rules and put your accessibility standard in place **to accommodate all customers.**

## USE-CASE DIAGRAM FOR ONLINE SHOPPING SYSTEM: Use Case Diagram (UML) showing Online Shopping System. Actors' involvement in the system to make payments, view items and client registration.

**Diagram

Description automatically generated**

**NON-FUNCTIONAL REQUIREMENTS:** These are called "non-functional requirements" or sometimes "Quality Attributes”.

Following Non-Functional Requirements will be there in the insurance to the internet:

1. Secure access to consumer’s confidential data.
2. 24X7 availability.
3. Better component design to get better performance at peak time.
4. Flexible service-based architecture will be highly desirable for future extension. Non-Functional Requirements define system properties and constraints.
5. Various other Non-Functional Req For example, attributes such as performance, security, usability, compatibility. aren't a "feature" of the system but are a required characteristic.

**USER-INTERFACE SPECIFICATION:**

Various interfaces for the online shopping application could be

1). Login Page

2). Registration Form

3). There will be a screen displaying information about product that the shop having.

4). If the customers select the buy button, then another screen of shopping cart will be opened.

5). After ordering for the product, the system will send one copy of the bill to the customer’s Email address.

**COMMUNICATION INTERFACES:** The two parties should be connected by LAN or WAN for the communication purpose.

**Shape

Description automatically generated with low confidence**

**SYSTEM DESIGN SPECIFICATION:**

**Architecture Design**

**Data Flow Diagram (DFD):**

A DFD is a structured analysis and a design tool that can be used for flowcharting in place of, or in association with, information-oriented and process-oriented system flowcharts. A DFD is considered as an abstract of the logic of information-oriented or process-oriented system flowchart. The four basic symbols used to construct data flow diagrams are:

1)A rectangle represents a data source or destination.

2)A directed line represents flow of data.

3)An oval represents a process

4) An Open-ended rectangle represents storage Chart, box and whisker chart

Description automatically generated with medium confidence

The points at which data is transformed are called as nodes. The principal processes that take place at nodes are:

1.Combining data streams

2.Splitting data streams

3.Modifiying data streams

Diagram

Description automatically generated

**CONTEXT ANALYSIS DIAGRAM:**

**Text

Description automatically generated**

# 3. Acceptance Criteria

**Scenario 1**

Graphical user interface

Description automatically generated

**A screenshot of a computer

Description automatically generated**

**Purpose:** Scenario that describes the use of **Online Web** application by the user, providing input available from the device.

**Individual:** The user could be any person who is in need to know about the products.

**Equipment:** User only needs internet connection only while browsing the web application, being offline application there is no more access to the search products.

**Scenario:**

1. The user will require a computer or smartphone to browse the web application or any other communication channel.
2. The motive of this Online Shopping Web Application is to allow the user to play with the search tool and create different combinatorial search criterion to perform exhaustive search.
3. Provide Interactive interface through which a user can interact with different areas of application easily.
4. A search engine that provides an easy and convenient way to search for products specific to their needs.
5. The search engine would list a set of products based on the search term and the user can further filter the list based on various parameters.
6. Provide Drag and Drop feature thereby allowing the user to add products to or remove products from the shopping cart by dragging the products in to or out of the shopping cart.
7. The current system can be extended to allow the users to create accounts and save products into wish list.
8. The users could subscribe for price alerts which would enable them to receive messages when price for products fall below a particular level.
9. The current system is confined only to the shopping cart process. It can be extended to have an easy to use check out process.
10. Users can have multiple shipping and billing information saved. During checkout they can use the drag and drop feature to select shipping and billing information.
11. Users can be classified into two types based on their knowledge of the products that suit their needs.
12. Users who know about the product should be able to find the product easily with the click of a button.
13. Users who must figure out the product that would satisfy their needs could use a search term to find a list of products and then should be able to filter the results based on various parameters like product type, manufacturer, price range, platform supported etc.

**Scenario 2**

Graphical user interface, application

Description automatically generated

Graphical user interface, application

Description automatically generated

**Purpose:** Scenario that describes the use of **Online Web** application by the user, providing input available from the device.

**Individual:** The user could be any person who is in need to know about the product search results.

**Equipment:** User only needs internet connection only while browsing the web application, being offline application there is no more access to the search products.

**Scenario:**

1. The users should be able to view the complete specification of the product and various images at different Zoom levels.
2. The user should be able to read the customer reviews for the product and the ratings provided.

3. The user should be able to add a product to the shopping cart by dragging a product and dropping it in the shopping cart.

4. A user should be able to edit the contents of a shopping cart.

5. They should be able to update the quantities of the products added to the cart and remove the products from the cart.

6. The user should be able to remove the product from the shopping cart by dragging the product and dropping it outside the cart.

7. The user can be notified if the cursor enters a drop area and the object that could be dropped.

8. A user can edit the quantity of each product or remove the product from the shopping cart.

9. A user can also view the manufacturer information and information about rebates, exchange policies etc.

10. The user can see the list of products that are available.

11. The user can search for products by entering the search term into the search textbox provided on the top.

12. The user can filter the products by using the dropdown lists.

13. A user can view the complete description of the product by clicking on the product link.

14. The user can move the cursor on to the small images to view the same image in the enlarged position.

15. The products can be filtered based on various parameters like Manufacturer, Product Type, Operating System supported etc.

16. A product could be added to a shopping cart by dragging it and dropping it in the cart area and the items in the cart could be removed by clicking a button.

# 4. Validation/Verification

A description of verification, validation, and testing techniques can be arranged in several different ways. In keeping with the emphasis on verification throughout the lifecycle, we first present general techniques which span the stages of the lifecycle. The remaining sections are organized along the lines of the usual testing plan, providing discussion of test data generation, test data evaluation, testing procedures and analysis, and the development of support tools. Each procedure will be briefly discussed, with emphasis given to its role in the validation process and its advantages and limitations.

* Ensure accurate and timely product delivery, while maximizing customer satisfaction.
* Plan more cost-effective fulfillment strategies, determining optimum fulfillment center locations and last-mile delivery services.
* The first phase of the validation process is to check the data sets and to understand the scope of the tool. Later phases we process the designs using some Machine learning techniques and algorithm and implement some clustering techniques.

# 5. Requirements Consideration

**Assumption made about the software:**

We are assuming that the user who is using this interface can understand English language, as the whole system is designed in English. We are also assuming that the user has the knowledge of how to use a basic ecommerce system so that he can navigate between various screens without any difficulty.

**End users: Describe each type of user:**

Customers:

The main user who would use our product is the customer who would like to purchase products on the web. If the customer wants to purchase a product, he can simply open our website by entering the domain name in the browser. As discussed in the above use cases if the product the user wants to purchase is among the categories of products that are available on our website he is redirected to page where a list of products is fetched from our database and displayed on the UI.

**Environment: State the environment in which the system will operate:**

As we our application is a web application the end user should have a computer with a standard browser such as Google Chrome or Safari. Although our application would work on other browsers such as Internet explorer the experience would be much better on standard browsers. Also, our application can be accessed from the browser from any android or iOS devices. The steps to get into our application would be the same for both devices - computer and phone.

**Existing systems: State any existing system and/or other related entities:**

The project that we are working on has similarities with major ecommerce websites such as Amazon, Walmart, Bestbuy etc. The only difference comes in the range and type of products that we are going to have in the initial stage. However, we can dynamically add more and more categories and more products to our website database as we move forward as the system is designed that ways. The system is also designed to be scalable, as we move forward, we can handle to huge amount of incoming traffic to our website. Load testing is done to check if our website can handle huge load.

**Limitations: State what the system will not do.**

There are some limitations to what our application can do. They are as follows:

1.Our application is only responsible for providing an interface to the end user to place orders to the products that are available in our database.

2.After the order is placed the details are sent to the vendor whose product is purchased by the end user. The vendor is responsible for processing the order

and sharing the delivery details such as tracking number of the package to us. The same will be displayed to the user.

3.The application is not responsible if there are any failures in the payment screen as we are going to use a third-party payment application that is integrated to our system. So, any failures should be taken care by the bank.

**Rationale: Describes how the requirements meet or exceed the needs of the customer:**

This application helps the user to buy products from different vendors based on different locations across a given geographical location. This enables the customer to choose between various prices (which are fixed by the vendors) hence enabling the customer to choose from multiple options in relatively short amount of time rather when choosing from different products in in store shopping.

The customers can also take advantage of getting products on good deals by using the promo codes which could be from the bank or by the application itself during season sales.