
Software Requirements Specification

for

Online shopping system

Version 1.0 approved

Prepared by

Supritha R

Chandana M

Monisha Chandra

PES University,Bangalore

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Revision History

Name	Date	Reason For Changes	Version
Online Shopping System Version 1.0	06/01/2021	Initial Version	1.0

1. Introduction

1.1 Purpose

This document is the Software Requirement Specification (SRS) for an Online Shopping System(Focused on the technology giant Amazon.com). Online shopping allows consumers to directly buy goods or services from a seller over the Internet using a web browser.

Amazon.com, Inc. is an American multinational technology company which focuses on e-commerce. The purpose of the Software Requirement Specification is to provide a clear, archived model of the prerequisites for the internet shopping framework, that will give high level use cases to a web client making buys on the web.

1.2 Intended Audience

The intended audience of this document include the site administrator of the Online shopping system and the end users of the Online Shopping system, business analysts, design team, application developers, project managers, investors.

1.3 Product Scope

The purpose of the SRS document is to define the system under development, namely the Online Shopping System and analyze all assorted ideas that have come up to define the system, its requirements with respect to consumers . The scope is to develop an Online Shopping System for end users, i.e., customers. This system should support product search, shopping cart and product check out.

1.4 References

- SRS document format
<https://www.c-sharpcorner.com/article/software-requirements-specification/>
- Online shop requirements
<https://www.websitedesigns.co.za/online-shop-requirements/>
- Tool used for Diagrams
<http://draw.io/>
<https://app.creately.com/>
- Amazon website used for reference
<https://www.amazon.in/>

2. Overall Description

2.1 Product Perspective

The Online shopping system is a stand-alone product, targeted towards both vendors and their respective customers.

This product envisions to bridge the gap between the seller, retailer and the customer. The product being on a digital platform makes it more convenient to all the users involved, since physical presence is not required for most of the product's operations. The product must be available to any user that can access a web browser. It is a user-friendly one stop for millions of products online where purchases happen in a secure and efficient manner.

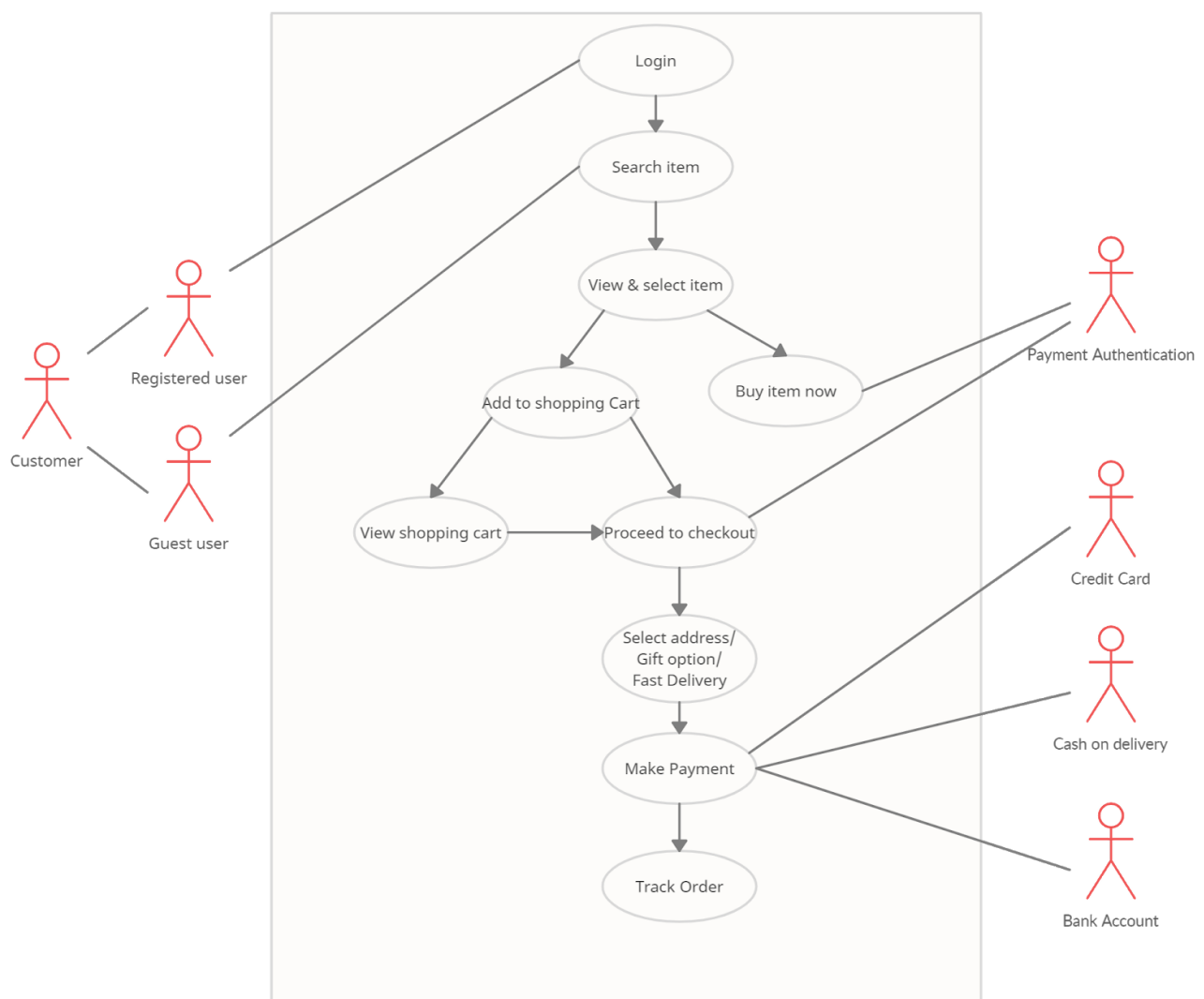
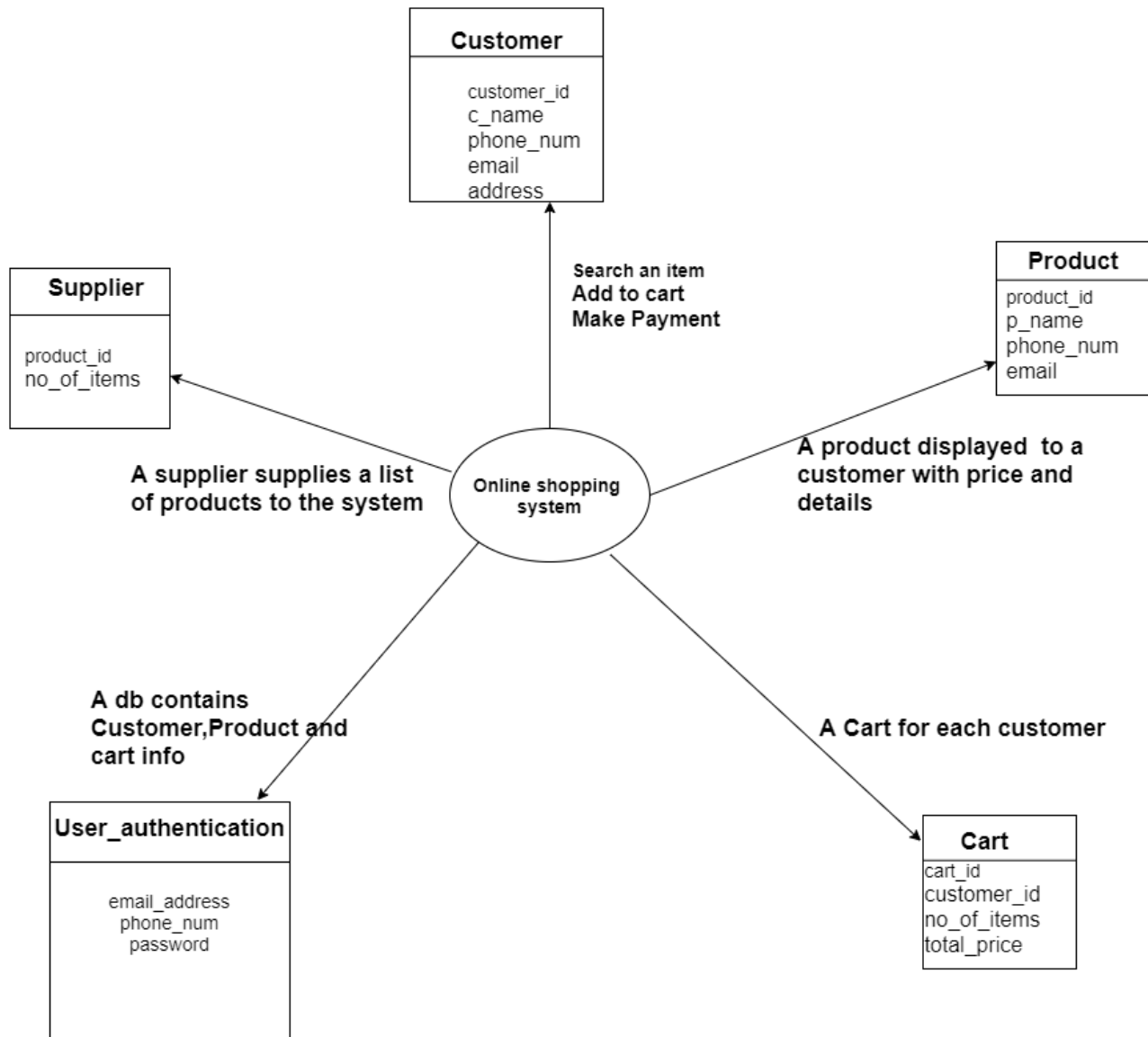


Figure 1: Amazon.com Online Shopping System UML diagram

2.2 Product Functions

The following are the functions of Online Shopping system

- Sign up for new users
- Login for existing users
- Search for items
- Buy the item now
- Add the item to cart
- View cart
- Proceed to checkout
- Address for delivery
- Method of payment
- Track ordered item



2.3 User Classes and Characteristics

2.3.1 Customer(Buyer)

The customer is a verified user of the website who browses through the catalogue of items and makes a purchase from the seller. They are the most important user class for this product. The customer can either make a purchase as a guest or by being a verified user via username and password constructs. If the customer is a registered user of the website, he gets additional benefits of recommendations of similar products or products that other customers have frequently bought together.

2.3.2 Vendor(Seller)

The seller is a verified person who is allowed to sell items over the platform. The details of the seller are stored in a database along with the products he is selling. The seller is responsible for updating quantity, price and product descriptions.

2.3.3 Administrators

The admins look after and monitor the functioning of the website. They are responsible for maintaining the platform. They do not contribute to the buying and selling, they merely enable it in a smooth manner. Admins are responsible for reporting any fraudulent sellers and transactions.

2.4 Operating Environment

Recommended browsers are Chrome, Firefox, Safari, Internet Explorer 8 or higher.

Particulars	Client System	Server System
Operating System	Windows/Linux/Android/iOS	Linux
Processor	Intel or AMD	Intel or AMD
Hard Disk	1 GB	1 TB
Ram	256 MB	8 GB

2.5 Design and Implementation Constraints

2.3.1 Hardware Constraints

The system works on desktop and laptop computers which support JavaScript and HTML5.

2.3.2 Software Constraints

The system will be intended to run on Firefox 4 and above, Google Chrome 10 and above and Internet Explorer 8 and above.

2.3.3 Language Constraints

The website will originally be constructed in the English language. However, third-party translation tools can be implemented to offer a variety of languages.

2.3.4 Performance Constraints

Server might be incapable of handling high traffic bursts.

2.3.5 Quality Constraints

Product image may vary from actual product due to inaccuracies on the seller's side. Reviews may not always be reliable.

2.6 Assumptions and Dependencies

1. Customers and sellers must have basic knowledge of computers and the English Language. They must have a stable internet connection with proper web browsers installed on their respective systems.
2. The seller is not a fraud and all items are bought as new. The product details as stated by the seller match the customer's product when delivered. The customer leaves an accurate and a reliable review, unbiased and uninfluenced.
3. Third-party payment gateway applications are safe, secure, reliable and will not store any sensitive information of either the seller or the customer.
4. Third-party translation applications will translate the English language into a variety of different languages whilst being fully accurate and not causing any miscommunication between the seller, customer and admins due to incorrect, ambiguous or misleading translations.

3. External Interface Requirements

3.1 User Interfaces

The Online Shopping System should have the following user interfaces:

- **Login page** for authenticating registered users. It should accept email addresses, passwords and authenticate against authentication systems. It also provides features for New user registration and Forgot password.
- **Search page** is for registered users who can search products based on product attributes. User can also search by product name, brief description, and product category
- **Products list page** displayed once we get result for the searched item
- **Product page** is shown once the user clicks on an item in the products list page. This should give an option to add the product to cart or buy the product.
- **Shopping cart page** displays the items in cart and also the total price.
- **Checkout page** gives the total amount to be paid and gives various methods of payment. It also gives options to mark the product as a gift and fast delivery.

Once the payment is done , it displays the details of the order and the estimated delivery date.

3.2 Software Interfaces

Online Shopping system should integrate with the following interfaces

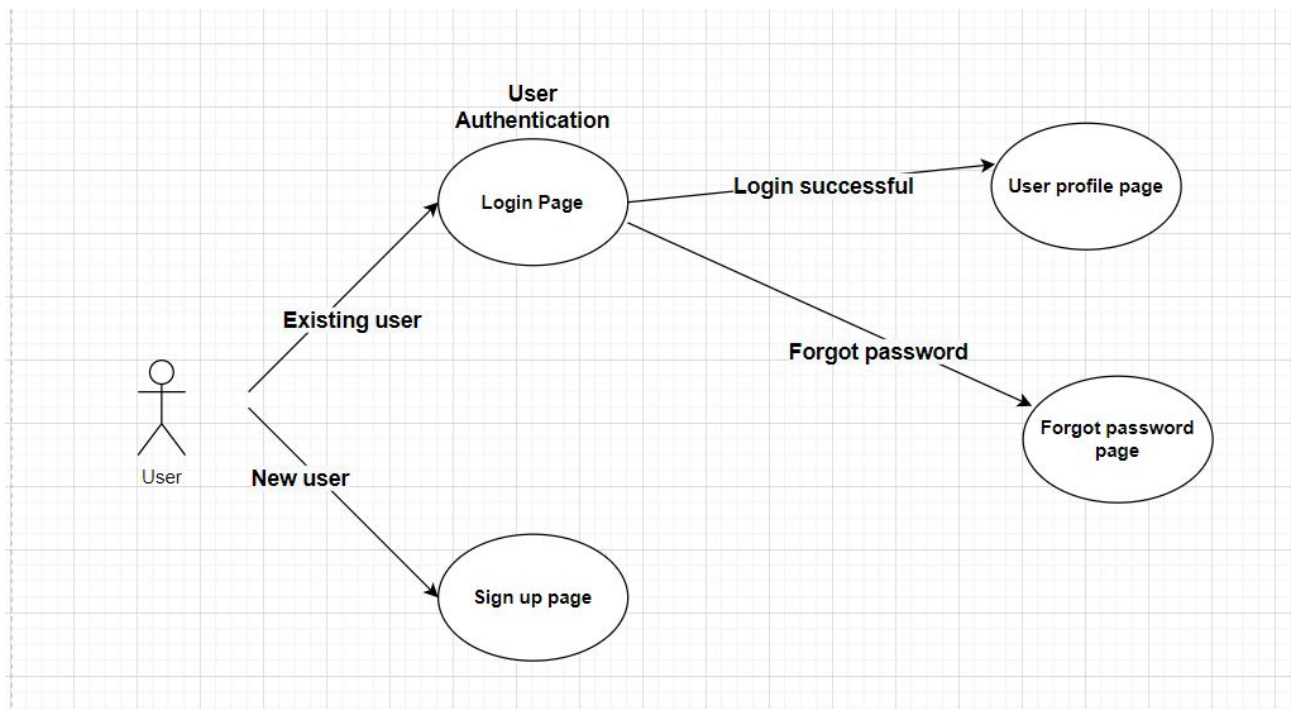
- **Product database** to get product details. A database will be created using MySQL relational database to store the product details. Using APIs is the most preferred way of integration.
- **Pricing System** to get the product pricing, in real-time for the selected products.
- **Web server** will be used to accept all requests from the user and forward it accordingly.

3.3 Communications Interfaces

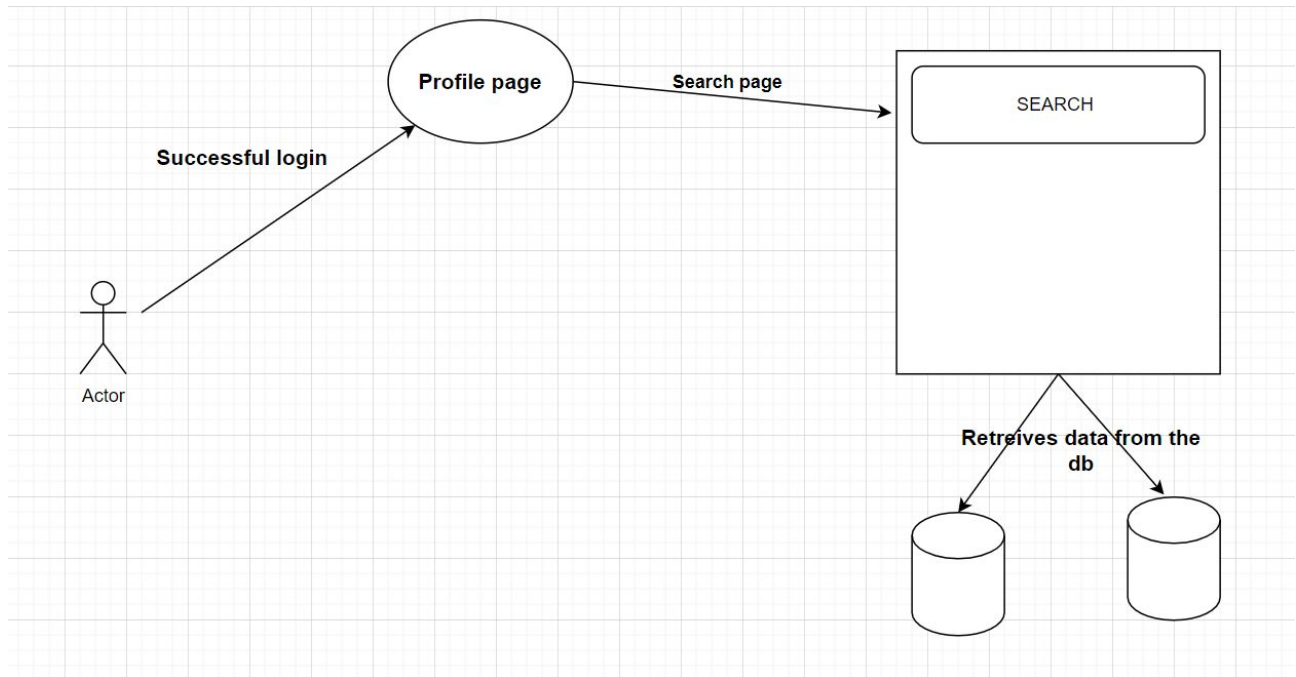
The HTTP or HTTPS protocol(s) will be used to facilitate communication between the client and server.

4. Analysis Models

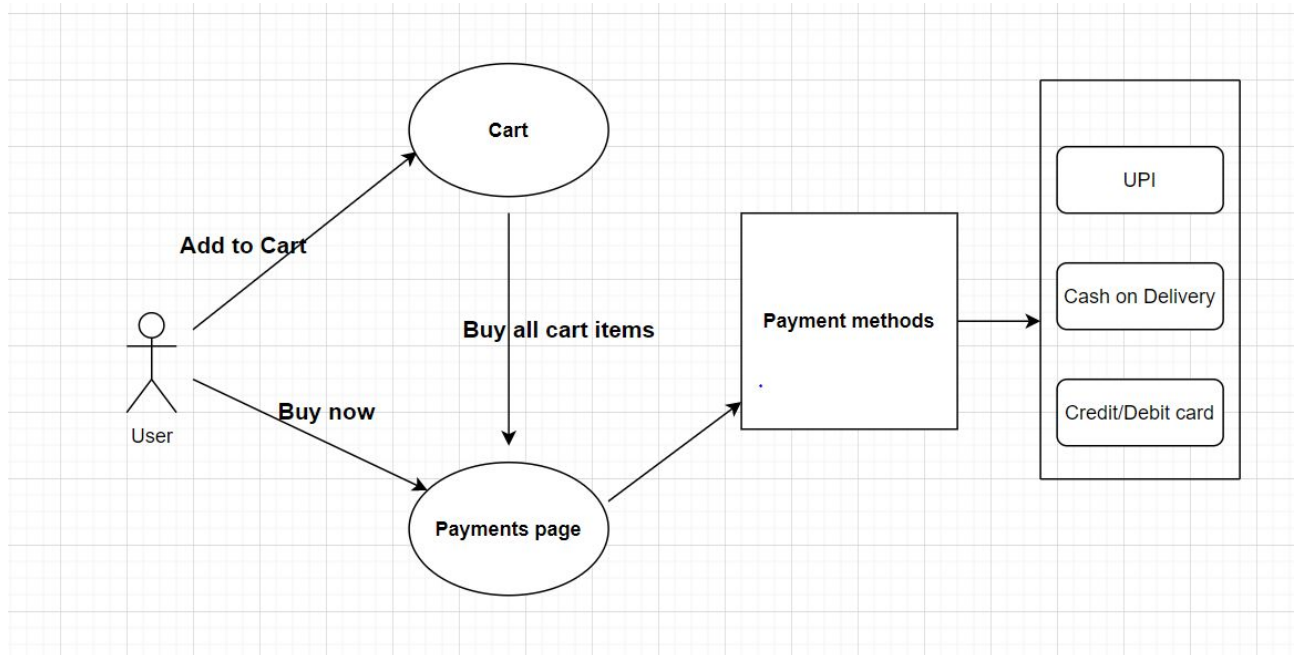
4.1 Login



4.2 Search



4.3 Payment



5. System Features

5.1 Create User account

5.1.1 Description and Priority

The user will be given an option to view the website as a guest or through a verified account. Creating an account has the advantage of faster checkout, giving reviews and rating and is helpful for a more personalized shopping experience. This will also be useful for the organisation to send suggestions and offers to customers through mail or messages.

Priority : Medium

5.1.2 Stimulus/Response Sequences

Stimulus : The user must enter the name, phone number and email address and optional residential address. An OTP verification must be done either through mobile number or email address. A password must be created by entering the password twice.

Response : A User Account is created and the user can start searching and buying products.

5.1.3 Functional Requirements

Requirement Title	Create a User account
Required Input/Action	A User must provide the following details User Name, Email address, Phone number, Password, Residential Address
Expected Response	A User account must be created and the particular user's details should be added to the database and the user should be given access to the account and the privileges to rate a product, add it to a cart and also buy the product. Invalid email address or phone number and not meeting the password requirements will lead to error in creation of the account

Exception Scenarios	Input which doesn't follow the requirements for the field may lead to error in creation of account
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REQ-1: Creation of user account

5.2 Search items

5.2.1 Description and Priority

As the User searches for an item , It should display the list of all products which match the product name given and also give some products which are related to them.

Priority : high

5.2.2 Stimulus/Response Sequences

Stimulus : The user must enter the name of the product or the details of the product

Response : The products which match the query given by user should be displayed

5.2.3 Functional Requirements

Requirement Title	Search items
Required Input/Action	The user must enter the name of the product or the details of the product in the search bar of the home page.
Expected Response	The product should be searched in the database and the product with the details of the product should be displayed , some recommendations to the product must also be displayed.
Exception Scenarios	Invalid terms or terms which are not identified by the search Engine results to a

	page showing items not found
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REQ-2: Search items

5.3 Add items to Cart

5.3.1 Description and Priority

As the User decides to buy an item and wants to explore many more similar or different products , they should have the option to keep all these products in a cart. Each User should have a separate Cart which contains only the items he/she chooses.

Priority : high

5.3.2 Stimulus/Response Sequences

Stimulus : The user must select a product and click on the option “Add to Cart”.

Response : The product and it’s details with the price should be added to the cart and the cart must display the total price.

5.3.3 Functional Requirements

Requirement Title	Add Items to Cart
Required Input/Action	The Products page should be displayed , the User should click on the product and click on the option “Add to Cart”.
Expected Response	The product should be added to the cart of the user and the details of the product with price and the Cart total should be displayed. Some recommendations related to the products should be displayed.

REQ-3:Add items to cart

5.4 Proceed to checkout

5.4.1 Description and Priority

When User adds some items to the cart, there should be an option to add more items and proceed to checkout.

Priority : high

5.4.2 Stimulus/Response Sequences

Stimulus : When the user clicks on the option proceed to checkout

Response : The cart should be reviewed and payment methods should be displayed

5.4.3 Functional Requirements

Requirement Title	Proceed to checkout
Required Input/Action	User clicks on the option “Proceed to checkout”
Expected Response	The Order review page should be shown and The payments options such as UPI,Cash on delivery,Credit and Debit card should be displayed
Exception Scenarios	If there are no items in the cart, it doesn't show this option

REQ-4: Proceed to checkout

5.5 Payment

5.5.1 Description and Priority

The payment page gives options such as cash on delivery , UPI and Credit/Debit card. The user must choose one of them and enter the details for the payment to be done.

Priority : high

5.5.2 Stimulus/Response Sequences

Stimulus : Click on any of the methods of payment and enter the corresponding details for the payment method.

- Credit card - Card details such as credit card , cvv , name on the card
- UPI - UPI Id

Response : The Payment process should start and the payment should be done.

5.5.3 Functional Requirements

Requirement Title	Payment
Required Input/Action	User clicks on any of the methods of payment and enter the corresponding details for the payment method
Expected Response	The Payment process should start and verification should be done for card details by sending an otp to the registered mobile number associated with the card.Once the payment is successful an invoice along with an option to track the order should be displayed.
Exception Scenarios	If the Payment details are invalid the payment will be unsuccessful

REQ-5: Payment

5.6 Track order

5.6.1 Description and Priority

Once the payment is successful the user must be updated in real time with the status of the order by giving the details of the estimated delivery time.It should display in which of the following phases is the product in

- Picked up by courier
- Shipped
- Arrived at OSS (Online Shopping system)facility
- Left the OSS facility
- Out for delivery
- Delivered

Priority : medium

5.6.2 Stimulus/Response Sequences

Stimulus : Click on track your order

Response : The product details with the current phase , i.e, picked or arrived is displayed

5.6.3 Functional Requirements

Requirement Title	Track order
Required Input/Action	User clicks on Track order for a particular product ordered
Expected Response	The product details with the current phase, i.e, Picked up by courier or ShippedArrived at OSS (Online Shopping system)facility or Left the OSS facility or Out for delivery will be displayed along with the timestamp.
Exception Scenarios	If there is no order placed , this option will not be displayed

REQ-6:Track order

6. Other Nonfunctional Requirements

6.1 Performance Requirements

The system should be available at all times, so that users can access it using a web browser. It must be able to support multiple users concurrently and it should be reliable. Connections to the servers will be made available 24/7 based on the attributes of the user like his location, internet connectivity etc. This also depends on the hardware components of the customer.

6.2 Safety Requirements

The use of software should not lead to any event that could cause possible economical or occupational losses that are considered non-desirable. There shouldn't be a situation of data loss. Validated users should be allowed to use the extra benefits.

6.3 Security Requirements

The system must use password encryption and should not be exposed to security attacks. All transactions that include any confidential and sensitive data of the customer must use SSL (secured socket layer) to prevent a malicious user on the internet from seeing and modifying data, therefore further protecting the data flowing through the web browser.

6.4 Software Quality Attributes

The additional quality characteristics for the product that will be important to either the customers or the developers are:

- Reliability:
The backup of the database is continuously monitored and updated to reflect the most recent changes.
- Flexibility:
Software should be made available across multiple channels and devices
- Maintainability:
Software design must be such that it can be maintained efficiently. In case of failure re-initialization of the program is recommended.
- Portability:
Any system using any web browser should be able to use the features of the software and should be compatible with other platforms.
- Adaptability:
It should be able to adapt to all the modifications that might be done to the software in future.
- Robustness:
Software should have the capability of adapting to newer technologies.

6.5 Business Rules

- User can be a guest and start searching for a product and see the product details
- User must be registered for personalized suggestions and give rating or reviews
- A user can search for a product by name or details of a product. However these cannot be modified by a user
- User can add any item to a cart and any number of items(restricted to a limit to prevent mass re-selling)
- The Cart items can be proceeded to checkout by a registered user.
- The Payment can be done in any trusted methods such Credit or Debit card , UPI Payment , Cash on Delivery
- User can track the ordered items
- User has the option to cancel the order due to reasons such as unsatisfactory, wrong product etc(Before the item has been shipped). After shipping, items can only be returned once they have been delivered.

7. Other Requirements

There are no other requirements except the ones mentioned.

Appendix A: Glossary

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Cart - A virtual shopping basket which has all the products the user is interested in.
Checkout - The process of confirming the order, selecting address and making the payment.

D

Delivery - The item will be dispatched and given to the customer at the specified address by a delivery man.

O

OSS - Abbrev. for Online Shopping System.

Appendix B: Field Layouts

Sign up for an account

Field	Length	Data Type	Description	Is Mandatory
Customer id	20	Alphanumeric	Unique ID for a customer	Y
Customer name	50	String		Y
Phone number	10	Numeric	Phone number for verification	Y

Email address	30	Alphanumeric	Email address	N
Password	10	Password		Y
Address	200	Alphanumeric	Address for delivery	N

Login to an account

Field	Length	Data Type	Description	Is Mandatory
Phone number	10	Numeric	Phone number for verification	Y
Email address	30	Alphanumeric	Email address	Y
Password	200	Password		Y

Make payment

Field	Length	Data Type	Description	Is Mandatory
Payment method	15	String	Method used for payment	Y
Amount	6	Numeric	Total bill amount	Y

Appendix C: Requirement Traceability Matrix

Sl. No	Requirement ID	Brief Description of Requirement	Architecture Reference	Design Reference	Code File Reference	Test Case ID	System Test Case ID
1	REQ-1	Create User account					
2	REQ-2	Search items					
3	REQ-3	Add items to cart					
4	REQ-4	Proceed to checkout					
5	REQ-5	Payment					
6	REQ-6	Track order					