Software Requirements Specification (SRS)

For Flipkart Online store

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1. Introduction

1.1 Overview:

The purpose of the document is to collect and analyze all assorted ideas that have come up to define the system, its requirements with respect to consumers. The purpose of this SRS document is to provide a detailed overview of our software product, its parameters and goals. Developing an online platform is a job that requires equal share of technological expertise and sound decision making. Principally built on PHP, this website offers human experience which makes the shopping experience as satisfying as in a real store. Programming engineers make it sure that the site is high on responsiveness and low on tech errors, which is the most favorable selling point of this online store.

1.2 Purpose:

Flipkart.com is an e-commerce website allows consumers to electronically exchange goods and services with no barriers of time or distance. Electronic commerce has expanded rapidly over the past five years and is predicted to continue at this rate, or even accelerate. India's biggest online store for Mobiles, Fashion(Cloths/Shoes), Electronics, Home Appliances, Books, Jewelry, Home, Furniture, Sporting goods, Beauty & personal care and more! Largest selection from all brands at lowest price. Payment options - COD, EMI, Credit card, Debit card & more.

1.3 Scope:

E-commerce is a term for any type of business, or commercial transaction that involves the transfer of information across the Internet. It covers a range of different types of businesses, from consumer based retail sites, through auction or music sites, to business exchanges trading goods and services between corporations. It is currently one of the most important aspects of the Internet to emerge.

1.4 Outline of SRS:

This document describes the project's target audience and its user interface, hardware and software requirements. It defines how our client, team and audience see the product and its functionality. Nonetheless, it helps any designer and developer to assist in software delivery lifecycle (SDLC) processes.

1.5 References:

Reference for geeky operating environments www.w3techs.com
Reference for user interfaces of e-commerce www.uianduxdesign.com

Reference for Flipkart's Vision and moto www.wikipedia.com
Reference for functional diagram https://creately.com/diagram/example/hdkb50lr/Flipkart+DFD

1.6 Abbreviations:

SRS	System Requirements Specification
UI	User Interface
FAQ	Frequently Asked Questions
CRM	Customer Relationship Management
DFD	Data Flow Diagram

1.7 Definitions:

1.7.1 End user/Customer - The end user will be the one who visits the website and buys products online from the ones added by the Vendors/Sellers.

1.7.2 Vendor/Seller - Vendors/Sellers will add their products to the database, which will be seen in the website to the customers who can buy the products by selecting them. Vendors will have the special privileges than the end users, and have ability to manage the products added by them.

1.7.3 Product - A product is the item offered for sale. The price that can be charged depends on the market, the quality, the marketing and the segment that is targeted. Each product has a useful life after which it needs replacement, and a life cycle after which it has to be re-invented.

1.7.4 Administrators - Administrators are the ones who adds or administers the categories for the products, and administers the Vendors.

1.7.5 User ID - At the time of login or signup user is required to enter our complete details which gets saved at the particular company's database and our unique ID is generated which helps in all correspondence in future.

1.7.6 Seller ID - The seller must have a seller ID and password for this which is used to verify and find the unique profile of the seller. This allows him to list the products that seller have available to sell.

1.7.7 Order ID – Each purchased and sold item has a unique Identification no. called Order ID that is used to track and record the details of the purchase done on the platform. It is generated by the system itself and no two product can ever have same Order ID.

1.7.8 Bank Details - The transaction amount will be transferred back to the saved account. So the bank details will be synchronized and saved at the backend database securely.

1.7.9 Online Discussion - The data collected through the online discussion will be spread at various websites for reference purposes and people's review points will be noted.

2. Overall Description

2.1 Product Perspective:

Flipkart's online website based e-commerce is an outstanding way of bringing Sellers and customers on an online platform to make purchase in a secured and efficient manner irrespective of distance between the two. The product is one stop for 30 million products online. Flipkart offers daily recommendations for discounts and offers on products based on their category.

2.2 Product Function:

- Provide a simple interface and platform to ease the process of buying as well as selling products online
- Include smooth functionality and efficiency that adds to buyers' confidence.
- Appropriate space is dedicated to its Offers zone and deal of the day that fetches adequate attention of users.
- Flipkart keeps a constant focus on new category creation and expansion of products.
- Ads and promotion activities motivate shoppers to buy online.
- Tracking feature of orders and pending deliveries for both sellers and buyers.
- Notifying order and delivery reports to customers and sellers.

2.3 User Classes and Characteristics

2.3.1 Customer He or she is a verified user of website who is intended to buy a product from the seller via the Flipkart platform. The customer must have a username and password to make a purchase. The person is regularly updated and fed with latest offers and discounts according their interest.

2.3.2 Seller He or she is a verified person who is allowed to sell items over the platform. Seller's details are stored on database and all the products are listed under him that he is ready to sell or are available. He is responsible to set products details, price, and quantity.

2.3.3 Administrator He or she is responsible for monitoring functions and procedures on platform. Administrator is responsible to provide valid information of a purchase to the concerned authority in case of any dispute between the customer and seller or in case of exchange.

2.4 User Documentation

- Notifications
- Contact Us
- User Agreement
- Select the operator
- Make A Payment
- Submit Account Details
- Payment Security
- Privacy Policy
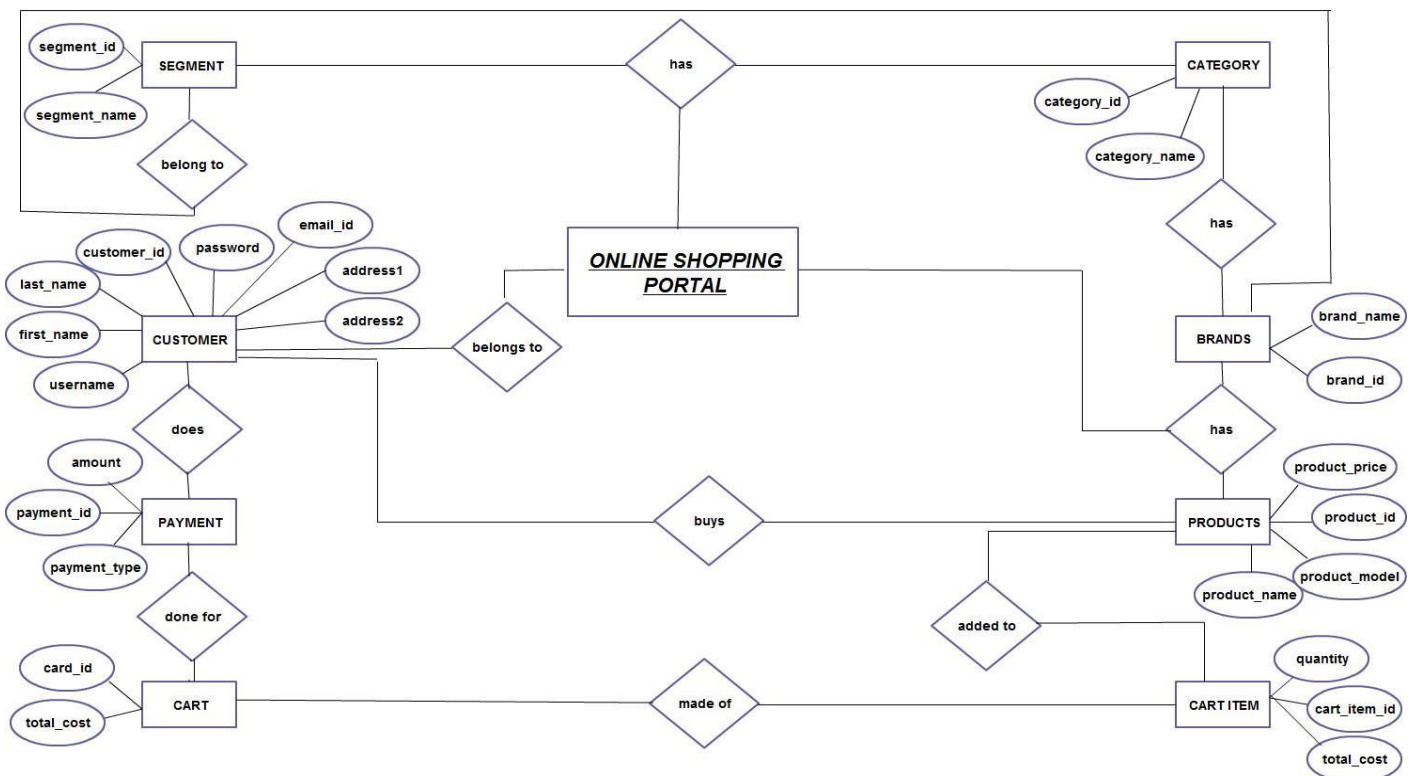
3. Specific Requirements

3.1 **Functional requirements:**

This subsection contains the requirements for the e-store. These requirements are organized by the features discussed in the product functions. Features from there, they are then refined into use case diagrams and to sequence diagram to best capture the functional requirements of the system.

3.1.1 Provide Search facility.

- User to enter the search text on the screen and display matching products based on the search.
- Enable user to select multiple options on the screen to search.
- Display only 10 matching result on the current screen.
- Enable user to navigate between the search results.
- Notify the user when no matching product is found on the search.

3.1.2 Tailored Content for the User

- Using the cookies of the user to study the buying pattern of the user.
- Assists him in his purchase and customizes his homepage according to his previous interactions.
- Including additions to his wish-list, page views, previous searches, reviews about the product among other things.
- Making good use of data is imperative to designing great customized user experiences.

3.1.3 Displaying Related Items

- Including results for related items to the items already bought.
- This can incentivize the customer to purchase more.
- By tracking the buying pattern of the user who is logged in, system recommends similar items for the user
- Display similar products with high ratings newly in-stock or are featured at special discount prices.
- Displaying all related items that other users purchased in addition to that product⬜ This exposes the user to a larger variety of items of his interest.

3.1.4 Add Sellable items on website

- Provide an interface to all the sellers to add product description and price through their account.
- List all the sellers for a common product they offer to sell and prioritize them based on percent of discount.

3.1.5 Easy Return or Exchange

- The system allows customers to return the item back to the seller in case he or she doesn't like the product and get the feedback of customer
- The system allows customer to exchange the product with seller in case of delivery of any defective item and get feedback from customer.
- Notify seller about the customer's reason and feedback about the product.

3.1.6 Provide personalized profile

- The seller's and customer's profile contain all details of seller and customer respectively like contact, location, address and seller's license.
- To display both the active and completed order history in the customer profile.
- To allow user to select the order from the order history and detailed information.
- To display the most frequently searched items by the user in the profile.
- To help seller keep list of products and its information in its profile.

3.1.7 Move transaction money and details to Profile

- Safe transfer of money into seller's bank account after successful transaction of money.
- Add details of transfer of money to company's selling and purchasing events logs and database. ☐ Send an order confirmation to the user and seller about the purchase through email or SMS.

3.1.8 Detailed invoice for Customer and Seller

- The system shall display detailed invoice for current order once it is confirmed. The system shall allow user to print the invoice.
- The system shall display detailed information of seller's detail to customer as well as customer's detail to seller.

3.1.9 Provide shopping cart facility

- The system shall provide shopping cart during online purchase.
- The system shall allow user to add/remove products in the shopping cart. ☐ Later customer can confirm orders for purchase.

3.1.10 Online tracking of shipments

- The system shall allow user to enter the order information for tracking.
- The system shall display the current tracking information about the order The system notifies seller about delivery of product to the consumer.

3.1.11 Allow multiple payment methods

- The system shall display available payment methods for payment.
- The system shall allow user to select the payment method for order.

3.1.12 Provide Customer Support.

- The system shall provide online help, FAQ's customer support, and sitemap options for customer support.
- The system shall allow user to select the support type he wants.
- The system shall allow user to enter the customer and product information for the support. The system shall display user contact of seller and Flipkart support desk The system shall display the online help upon request.
- The system shall display the FAQ's upon request.

3.2 Non-Functional Requirements

3.2.1 Performance

- The product shall be based on web and has to be run from a web server.
- The product shall take initial load time depending on internet connection strength which also depends on the media from which the product is run.
- The performance shall depend upon hardware components of the client/customer.

3.2.2 Security

3.2.2.1 Data Transfer

- The system shall use secure sockets in all transactions that include any confidential customer information.
- The system shall automatically log out all customers after a period of inactivity. • The system shall confirm all transactions with the customer's web browser.
- The system shall not leave any cookies on the customer's computer containing the user's password or confidential information.

3.2.2.2 Data Storage

- The customer's web browser shall never display a customer's password. It shall always be echoed with special characters representing typed characters.
- The customer's web browser shall never display a customer's credit card number after retrieving from the database. It shall always be shown with just the last 4 digits of the credit card number.

The system's back-end servers shall never display a customer's password. The customer's password may be reset but never shown.
- The system's back-end servers shall only be accessible to authenticated administrators.
- The system's back-end databases shall be encrypted and within company's perimeter.

3.2.3 Reliability

- The system provides storage of all databases on redundant computers with automatic switchover. The reliability of the overall program depends on the reliability of the separate components.
- The main pillar of reliability of the system is the backup of the database which is continuously maintained and updated to reflect the most recent changes.

3.2.4 Maintainability

- A commercial database is used for maintaining the database and the application server takes care of the site.
- In case of a failure, a re-initialization of the program will be done.
- Also the software design is being done with modularity in mind so that maintainability can be done efficiently

3.3 Constraints

- Limited numbers search queries for the users. Servers incapable of handling high traffic burst □ The actual product might differ from its display image. Uniform quality of service is not ensured.
- It cannot ensure the reliability of the review.
- The User and Seller must have confirmed User ID and Seller ID respectively.

4. Interfaced and design

4.1 User interfaces

The user interface shall be implemented using any tool or software package like Java Applet, MS Front Page, Enterprise Java-Beans (EJB) etc. on following languages.

Client-side Programming Language	
JavaScript	JavaScript is a lightweight, object-oriented, cross-platform scripting language, mainly used within web pages.
HTML5	HTML5 is the fifth revision of the HTML standard.
CSS	Cascading Style Sheets define style rules in a separate CSS file.

1. Login or Signup Page

2. Homepage containing products according to customer's interest.
3. There will be a screen displaying information about all products that user searched for.
4. If the customers select any product then it will open another tap about the product information.
5. After all transaction the system makes the selling report as portable document file (pdf) and sent to the customer E-mail address.

4.2 Operating Environment

Recommended browsers are Chrome, Firefox, Safari and 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

4.3 Assumptions and Dependencies

• The customer and seller must have basic knowledge of computers and English language.
• Each User must have a User ID and password.
• Each Seller must have Seller ID and password.
• There must be an Administrator. Internet connection is a must.
• Proper browsers should be installed in the user's system.

4.4 Hardware Interfaces

Since the application must run over the internet, all the hardware shall require to connect internet will be hardware interface for the system. As for e.g. Modem, WAN – LAN, Ethernet Cross-Cable. The system require Database also for the store the any transaction of the system like MYSQL etc. system also require DNS (domain name space) for the naming on the internet. At the last user need web browser for interact with the system.

Web Server Deployment and Technologies	
Nginx	**Nginx** (pronounced as "engine X") is a lightweight open source web server developed by Igor sysoev.
MySQL	**MySQL** database for storage of Data and user as well as seller information
RESTful API	A **RESTful API** is an application program interface (**API**) that uses HTTP requests to GET, PUT, POST and DELETE data.

4.5 Communications Interfaces

The e-store system shall use the HTTPS protocol for communication over the internet and for the intranet communication will be through TCP/IP protocol suite. The user must have SSL certificate licensing registered web browser.

4.6 Analytics Interfaces

Structured Data Formats	The Open Graph protocol, originally developed by Facebook, is an RDF a-based format that enables any web page to become a rich object in a social graph.
Google Analytics	Google Analytics is a free service to get detailed statistics about the visitors of a website, provided by Google.

5.Other Functional Requirements

5.1 Performance Requirements

- It will perform well with the good network connection.

5.2 Safety Requirements

- Must be safe by using separate lock in mobile and p for the application.
- Must verify your gmail and mobile number.

5.3 Security Requirements

- Must verify with your original gmail mobile number.
- And user should not share their user id and password with others.
- Users are advised to keep the special lock if it is for their personal use.

5.4 Software Quality Attributes

- **Security :** It must and should only know to the user.
- **Performance :** It will work well with the good network connection.

6.Other Requirements

Database

E-commerce sites like Amazon & Flipkart will definitely using both SQL and NOSQL technologies. Alone SQL is not sufficient for managing such large volumes of data. They must be using mixed of both technology and also using the core technologies like sharding and clustering. Mongo Database is very popular choice when considering NOSQL.