

Craft Online Shopping

Business Requirements Document

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Business Requirements Document

1 Introduction

The purpose of this Business Requirements Document (BRD) is to describe the different requirements for the Online Shopping System. This document describes what the system would look like from a business perspective and lists critical requirements accurately in a technology-independent manner. Specifically, this document intends to describe;

- **Business Requirements** – high level business needs and goal of Online Shopping
- **User Requirements** – needs of primary users who will be using the platform regularly
- **Non-Functional Requirements** – usability and behaviour characteristic required from the platform (in relation to things like the user interface, access security, availability, robustness, system failure, integration)

1.1 Document Overview

The main objective in this project is to create an online system that enables a company to sell and administer products, which is not restricted to just 1 seller (the company). Since the company consists of a number of different warehouses spread out in different countries, the system must include a website where products from all warehouses are sold, and furthermore an order management that coordinates inventory and orders between the warehouses. As the system is online, there needs to be proper delivery, checkout, and payment option for the clients using this product.

This project's focus area will be the product sale, order management, bill management, user management, category management, and checkout. Statistics, accounting, except for calculating the prices of the ordered products will be excluded.

1.2 References

<https://us.hitachi-solutions.com/blog/ecommerce-website-requirements/>

https://en.wikipedia.org/wiki/Online_shopping

1.3 Glossary of Terms

SRS : Software Requirement Specification
ML : Machine Learning

2. Business Requirements Summary

2.1 Business Goals and Objectives

Online Shopping Systems are known to have the capability of collecting more information along with reliable management of orders, users and deliveries. When conducting business, the more information that you have on customers, products, and sellers, the better equipped you will be. From stock inventory, data collection and detailed reports, user management, cart management, a good Online shopping system will be able to offer them all. A system that is capable of integrating with other ordering and sales systems is good to invest in. Gathering customer information is necessary for creating a custom model that you can work with. Understanding the objectives of your Online shopping software will give you an operating edge. The following are some of the objectives that you should familiarize yourself with:

Place Order

The customer can place order on the website. An “orderid” would be generated which can uniquely identify the order. The selected order will have all the details required details of the order including order id, items, etc.

The customer can make multiple orders and can have same or different products in varying quantity in each as desired.

Get product

In this feature, a user can get all the products, can get products by productid and can also get products from categoryid. (products, categories are database tables, productid, categoryid are the identity fields respectively).

Thus, implementing 3 services to get a product:

1. Get products – gets all products
2. Get product by Id – gets a specific product by its Id (ProductId).
3. Get products by CategoryId – get all products pertaining to a specific Category.

Get user by UserId

The user should be able to get user details for a specific user by its Id (UserId).

Get Users

We can retrieve all users by this API which will return all user details including its uid.

Get categories

Here, we would get the list of all the categories currently in the system. The retrieved categories will be in the form of list of categories. These categories will be Product categories. We will also be able to get a specific category from its Id (CategoryId). Thus, we will have 2 services here.

1. Get categories – get all the categories present
2. Get category by Id – get a specific category by its Id

Get Orders

Here, we will get the list of all the orders present in the system. We can also get a specific order by its Id (OrderId) and can also get orders of a specific user by its id (UserId). Thus, implementing 3 services here in total:

1. Get Orders – get all orders
2. Get order by Id – get Specific order by its Id
3. Get orders by UserId – get all the orders of a specific User.

2.2 Problem Statement

Online shopping is another innovation forward leap since it has quite recently started to ambush the retailing segment with online shopping administrations. So as to increment online shopping in, understanding purchaser online shopping conduct and factors affecting this conduct when shopping online ought to be given need. Research shows that 81 percent of the individuals who peruse sites for merchandise and ventures don't really make an online shopping.

Consumers are hesitant to buy some products online. Online furniture businesses, for example, have failed for the most part because customers want to test the comfort of an expensive item such as a sofa before they purchase it. Many people also consider shopping a social experience. For instance, they may enjoy going to a store or a shopping mall with friends or family, an experience that they cannot duplicate online. Consumers also need to be reassured that credit card transactions are secure and that their privacy is respected.

2.3 Scope

- Product Management.
- Category management.
- Warehouse Management.
- User Management.
- Order Management.
- Delivery Management.

Online Shopping provides the goods that customer needs, in a desired form, at a required time and without the hassle of going there physically.

As there may be many products, sellers must verify product they sell so that the customer get's only verified product. Customers want finished products with excellent quality. This quality can be maintained with the help of Verification module.

2.4 Stakeholders

Identify the stakeholders with responsibility for either managing, performing, or placing essential requirements on the processes being documented. For tightly-coupled business processes, those responsible for the adjacent business processes and/or functions must be documented and considered for inclusion as a stakeholder.

Stakeholders List:

- Customer
- Admin
- Sellers
- Warehouse personnel
- Delivery partner
- Competitors

2.5 Business Functionality Summary

Accuracy

A business can struggle with inaccurate inventory and unrecorded sales. This type of situation does not persist in our case as it is fully automated. The chances of errors are minimum and with the platform itself handling the inventory and payment management, there is no chance of any human error.

Platform Mobility

The users can use their mobile phones to access the website and order products. As the platform will be hosted on a cloud, it will provide great reliability and almost none downtime. There will also be an application that can do the functions of the website so that the customers have a great ease in shopping no matter the time and place.

Consistency

Due to factors like human errors, products might end up charging more at one store than the other. Possessing a Shopping Platform on cloud will eliminate this inconsistency. It guarantees high-quality customer care and integrity. Having a consistent price index is a professional function you can achieve from the right Online shopping platform.

2.6 Business Constraints

This items that will limit the business operations or solution options.

- The size of the market. The extent of the market determines a business's ability to make sales. You can't make sales if there are no customers out there.
- The nature of demand in the market. It is important to identify the nature of your customers and their requirements through detailed market research.
- The availability of supply. A business often depends on supplies. For example, clothes retailing business needs to acquire garments, in the appropriate quantities, prices and at the right times.
- The nature of the competition. The strength of the competition is a key constraint on business success. Businesses need to position themselves in such a way as to limit the effect of the competition.
- The availability of finance. Businesses need to have the right quantities of finance at the right times to match their needs. Liquidity and cash flow are thus very important. It is necessary to have funds when they are required to meet the pressing needs of the business.

2.7 Future Prospects

Automation of Inventory and warehouse management

The first objective of Online Shopping Systems is to help in the management of your business' inventory. When conducting sales, all of the payments will be made through the use of a credit card or any other online means. The inventory management module will take care of the Inventory stock and help in timely stocking the products.

Instead of manually checking your stock in each warehouse to determine what you should add, the Online Shopping system will be able to do this for you. Through the tracking and collecting of information, the system can know what sells a lot, and when it should be restocked. You will also get reports that will help you determine when you should adjust your pricing.

Ability to add sellers

Traditionally, you would have the sole right to sell goods. But, with increasing demand, it may appear that it is not enough. We will enable the platform to support seller registration and onboarding. Due to this functionality, different sellers will be able to register on the website and after a deep verification of products, they can sell their products with ease.

Due to this, the customers will have a great range of variety and a competitive market. The profitability for craft shopping will be high as the sellers pay a commission of what they earn through craft portal.

Collection of Customer Data

Finally, you can use your Online Shopping Systems to collect information from your current customers. It will depend mainly on the information input capacities and the software used in the Online shopping system you are using.

With personal information such as the customers' phone number, email address, and previous buying history you will be able to improve their buying experiences. Also, having the customers' previous buying history on your system will make it easier for them to shop more. It will encourage repeat business from the customers, mainly due to the convenience of finding accurate and related suggestions for their next purchase. Having Customer's address details and Payment details will encourage customers to shop more.

Recommendation system

The online platform will have a recommendation system that will enable the true power of customer data and purchase history. When a customer buys a product, that will be registered in the history. All the data of what customers buy in pair or together will be captured. This data will be fed to a Machine Learning Model which will be a Recommendation System. This system will give precise and relevant buying suggestions to the customers, giving them a as personal as possible user experience.

Each new purchase would be each new entry in the dataset which will be fed to the recommendation system. With more and more data, the ML model will become more powerful.

Automation of Delivery Tracking

Each order will be automatically assigned a delivery service based on the third-party delivery agent to be used. The tracking number will be automatically updated in the UI of customer's order page. The customer can track the package with a single click and can know the exact location of the package.

This will be done by using a third-party delivery tracking API which depends upon the tie-up with type of delivery agency.

Chatbot integration

Chatbot can be integrated with the online website which can be very useful. A study shows that around 60% of people find answers to their questions through chatbot. Thus, reducing the task of customer support. People find the relevant articles, the frequently asked questions along with do it yourself actions in the chatbot.

Around 80% of interactive websites use chatbots and have seen a tremendous growth in their business along with lessening the burden of a customer support team.

Automated Verification System

There is an option of letting other sellers join the platform and sell their products too. But due to this, there may be a chance that the quality of product is not maintained. To tackle this problem, we can integrate an ML model which is an Automated Verification System that detects broken products from its appearance and can add a layer of trust and protection for the customers.

This ML model will be extensively trained first on the available dataset and then can be deployed on the platform at a later stage.

Ratings and Reviews

The platform will have an option where a user, who had bought the product from the website can give a review and rate it from a scale that can be as desired. This reviews and ratings will go live so that other users can get help in selecting the right product.

The reviews will be filtered for any abusive content before going live. If there are thousands of reviews, the most relevant reviews will be shown to the customer on top. This will be done by a ML model for Text Summarization.

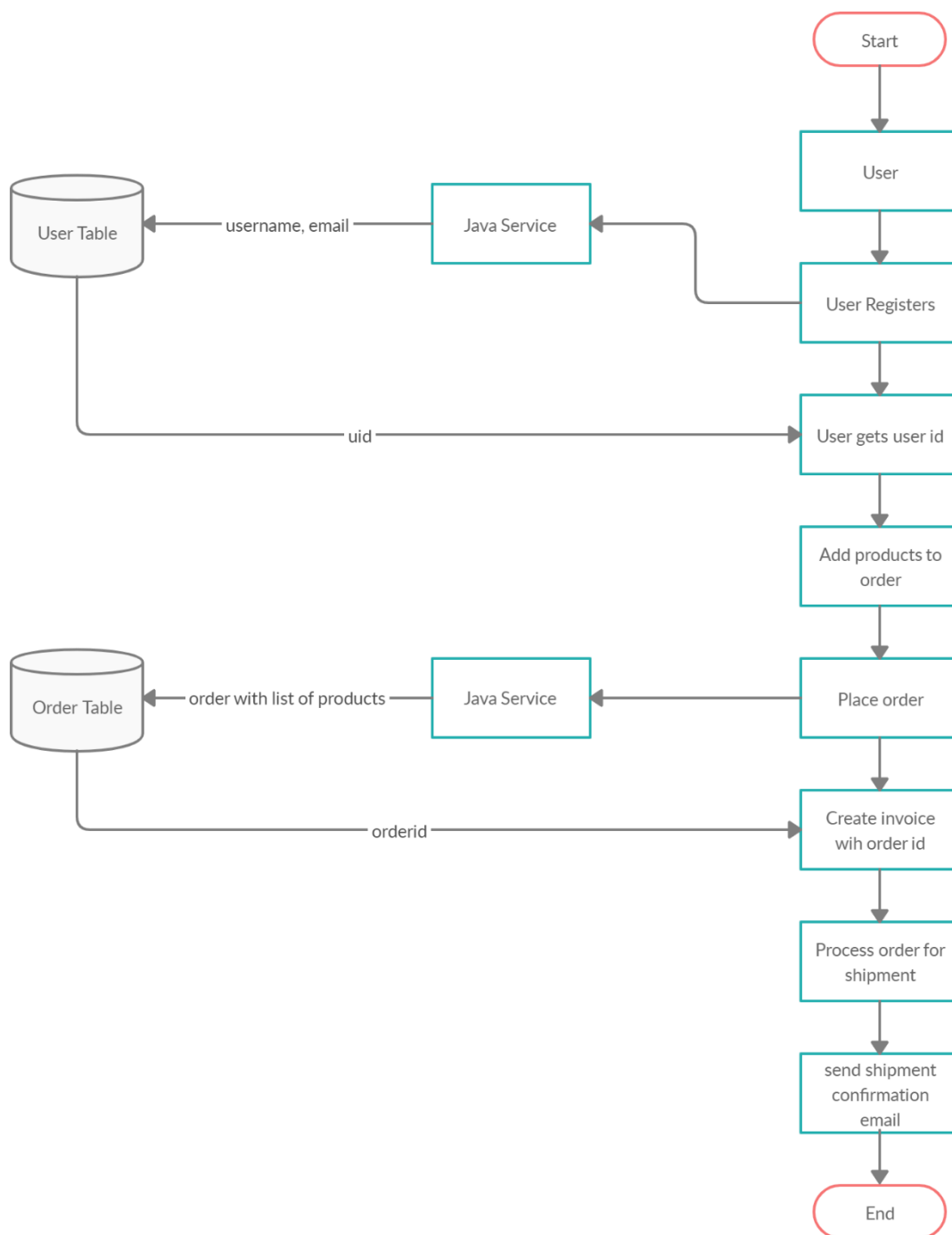
The removal and filtering of abusive and inappropriate content can also be automated by an ML model for sentimental text analysis models, which are widely available and can be developed for the platform accordingly.

3. Business Process Flow Charting and Diagrams

Describe the current existing and proposed high level process workflow using flow diagrams and supporting narratives. These diagrams representing processes, are to provide a mapping and standard notation easily understandable by business stakeholders. Consequently, these diagrams serve as a common flow-charting language, bridging the communication gap that frequently occurs between the Business Requirements Documentation and the Systems Requirements Documentation. This will also form an input for the SRD phase of the project to commence system requirements use cases within the SRD.

3.1 Diagrams

This Diagram shows the Flow of different Processes.



This Diagram shows the different API's that are created and exposed.

