

Software Requirements Specification for Food Clearance E-Commerce

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Course Title: Software Engineering

Course Code: CSE 327

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Semester: Spring 2020

Dhaka, 17 February 2020

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Revision History

Revision	Date	Author(s)	Description
1.0	13.02.2020	Nusrat Jahan Khan	Chapter 1 - Introduction
2.0	14.02.2020	Nusrat Jahan Khan	Chapter 2 - Overall Description
3.0	15.02.2020	Nusrat Jahan Khan	Chapter 3 - Requirements
4.0	16.02.2020	Nusrat Jahan Khan	Final Version

Chapter 1

Introduction

1.1 Purpose

This is a web application. The name of our project is food clearance. The project is intended to be a platform where customers can select items they want to buy, add them to their carts, and finally check out the cart when they are ready to purchase them. This food items expire within a short time. So by using this app the food items will be sold easily.

The purpose of the software system is to make a bridge between two parties as such customers and suppliers. It is a web application based on Laravel; a very popular PHP framework that follows the MVC architecture. The description of the two parties is provided below.

In our daily life, shoppers often ignore food items in the supermarket which expire within a short time, since there are often always food items which got much better expiry dates. These items are left behind and they often are not purchased before they expire. For example, pastry items usually have a short life and most sellers do not consider the importance of expiry date and are often not honest about it. As a result, people buy the pasty items which have already expired. This platform is intended to raise awareness and also help suppliers be honest about it as every other supplier is in the same situation, especially for food items which are not processed and do not have a long life, so competing with processed items (which often have a long life) is not necessary. Since the items are intended to be sold within a short period of time, the price is estimated to be much lower than that in mainstream platforms or markets.

1.2 Intended Audience

The web application is intended for food suppliers and consumers. It is intended to be used as a platform where foods items supplied by the suppliers are going to be showcased. On the other side, consumers can search for the food items they desire and purchase them.

1.3 Intended Use

The project is intended to be a platform where customers can select items they want to buy, add them to their carts, and finally check out the cart when they are ready to purchase them. The platform is also designed to host suppliers who can manage the items they want to sell, handle transactions, monitor sales, etc.

1.4 Product Scope

Our web application is an interface between customer and marketer, which can be used for any kind of business product or services.

1.5 Risk Definition

- **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.
- **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.
- **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 reinvented.
- **Administrators** - Administrators are the ones who adds or administers the categories for the products, and administers the Vendors.
- **User ID** - At the time of login or sign-up 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.
- **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 sellers have available to sell.
- **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 products can ever have the same Order ID.
- **Bank Details** - The transaction amount will be transferred back to the saved account. So the bank details will be synchronized and saved at the back-end database securely.
- **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.

Chapter 2

Overall Description

2.1 User Classes and Characteristics

2.1.1 Customer

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

2.1.2 Seller

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

2.1.3 Administrator

- He or she is responsible for monitoring functions and procedures on the 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.

2.2 User Needs

2.2.1 Responsive Web Design

Mobile devices are an important part of everyday life, especially since consumers spend more than five hours a day on their smartphone. People want to be able to browse the internet and access the information they need from their favorite devices without any headaches or second-guessing. Responsive web design automatically adapts a web store to the mobile device that's being used without distorting the view.

2.2.2 Attractive, Easy-to-Navigate Web Store Design

Attraction equals persuasion. A good-looking online store supports customers throughout each step of the buying journey: from enticing a shopper to visit the webpage, to inspiring them to explore the store and its products, to finally charming them into purchasing.

2.2.3 Speedy Page Loading

Online shoppers want convenience, and they won't stick around if a page takes forever to load. The online shopping experience should be seamless and easy, especially since 40% of people will abandon a website that takes more than three seconds to load. In fact, a one second delay in page response can lead to a 7% decrease in conversions.

2.2.4 Product Details

Online shopping can be a leap of faith — a shopper can't physically pick up and feel merchandise before they buy, like they would in a brick-and-mortar store. In fact, a study found that 62% of shoppers choose brick-and-mortar stores over online options solely because they want to be able to see, touch, and feel the product.

2.2.5 Search and Filter

Some customers know precisely what they're looking for — which is why it's important to provide them with a focused shopping approach with searching and filtering functionality. A search bar or box helps customers instantly locate what they need. According to Marketing Charts, 35% of visitors to an ecommerce site always use the site search box.

2.2.6 Customer Reviews

Shoppers want to hear from real people about their product experiences to see if the product fits their desires and expectations.

2.2.7 Powerful Shopping Cart

A shopping cart isn't just a place for customers to store items pending checkout — it's another important touchpoint that can deliver additional conversion opportunities. Cross-selling at checkout helps target customers more precisely with products they are likely to be interested in based on the items already in their cart — which can in turn increase the purchase total.

2.2.8 Simple Checkout

Don't let a complicated or lengthy checkout process make customers abandon their shopping cart at the last minute. Eliminate friction with an easy checkout that allows customers to quickly fill out only the most necessary information. Fields that the customers can fill out by choice on the form (such as signing up for a newsletter); pre-filling forms; a progress bar for multiple steps/pages; and the ability to store credit card information for repeat shoppers helps to minimize frustration.

2.2.9 Visible Contact Info

The quicker you answer a customer's question, the quicker they move forward with the purchase process. Prominently displaying your contact info on your store helps customers know where to turn for a quick resolution to their queries.

2.3 Operating Environment

The web app has a graphical user interface as its front-end, which can be accessed by any kind of modern browsers. On the other side, the back-end is powered by PHP 7.2 (or above) hosted on a web server.

Articular	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

2.4 Constraints

- The Food Clearance app will have numerous constraints on what it can do.
- The system will not have full credit-card processing capabilities.
- It will not allow managers to be customers.
- The manager will be a hard-coded user and only a single manager will exist.
- The system will provide the customer with a receipt and it will log the transaction details.
- The system will not allow multiple promotions to be added to a single shopping cart nor will it allow a customer to add more than one of each item to their cart.
- The system also will not allow users to retrieve passwords or edit their user details.

2.5 Assumptions

- 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 a Seller ID and password.
- There must be an Administrator.
- Internet connection is a must.
- Proper browsers should be installed in the user's system.

Chapter 3

Requirements

3.1 Functional Requirements

3.1.1 Homepage

- As a user, I want to be able to get information about food items at glance.
- Since the expiry dates matter the most, I want the items which expire the earliest to appear before other items.
- I want to instantly buy the items with one click.
- I want to be able to add items to the cart without being redirected anywhere else so I can continue shopping uninterrupted.

3.1.2 Cart

- As a user, I want to be able to add all the items I want without any constraint whatsoever; even the quantity shouldn't be a limit since a cart is supposed to be for the future, not the present; price and quantity may change anytime. Such attributes should only matter during checkout.
- I should be able to remove items from the cart anytime.
- I should be able to see if an item in my cart is unavailable in the quantity I want.
- I should be able to see the total price of the items I have added to my cart.
- There should be an option to check out all the items in the cart.

3.1.3 Company Panel

- I should be able to view the summary comprising statistical information such as total sales, numbers of companies I own, food items, etc.
- I should be able to manage (add, remove, edit, view) the companies I own.
- I should be able to manage (add, remove, edit, view) the food items I have in my companies.
- I should be able to manage (remove, edit, view) the transactions associated with my companies and their food items.
- I should be able to go back to the homepage whenever I want.

3.1.4 Admin Panel

- I should be able to view the summary comprising statistical information such as total revenue earned from all the transactions carried out in the platform, number of companies and foods items throughout the site, number of users, etc.
- I should be able to manage (add, remove, edit, view) all the users who are part of the site.
- I should be able to manage (add, remove, edit, view) all the food items in the entire platform.
- I should be able to manage (add, remove, edit, view) all the companies in the entire platform.
- I should be able to manage (remove, edit, view) the transactions associated with all the companies and their food items.
- I should be able to go back to the homepage whenever I want.

3.1.5 Food Items

- I, as the owner of a company a food item is associated with, want to be able to set the quantity and price of a food item.
- As an owner/creator, I should be able to change the avatar/picture of a food item.
- As a regular user, I should be able to view the pictures/avatars of food items.
- As a user, I should be able to buy items or add them to my cart.
- There shouldn't be multiple food items with the same name.

3.1.6 Companies

- I expect companies to have at least one manager.
- I do not expect multiple companies to share the same name.
- I want food items to be associated with a company.
- I want the administrator to have all the privileges possible, including the ones associated with the companies.

3.1.7 Accounts

- I want to be able to create accounts.
- Accounts must be required to make a purchase or have a functional cart.
- No anonymous user should be able to have any privilege in the site, except for creating an account for themselves or logging in.
- Users should be able to identify themselves with a name and use a password for verification.
- There should be a unique identifier like an email address associated with each account.

3.1.8 Graphical Report

- Users should be able to generate a graph-based report which indicates the top-sellers in the entire platform.
- An automated list will be generated according to the best sellers for future analytic.
- A pie chart will be generated to find out the best selling products.

3.2 Non Functional Requirements

3.2.1 Performance

- The product shall be based on the 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

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.

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 the company's perimeter.

3.2.3 Reliability

- The system provides storage of all databases on redundant computers with automatic switch-over.
- 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 Safety

- It is the state of being "safe", the condition of being protected against physical, social, spiritual, financial, political, emotional, occupational, psychological, educational or other types or consequences of failure, damage, error, accidents, harm or any other event which could be considered non-desirable.
- This can take the form of being protected from the event or from exposure to something that causes health or economical losses.
- It can include protection of people or of possessions.

3.2.5 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

3.2.6 Constraints

- Limited numbers search queries for the users.
- Servers are incapable of handling high traffic bursts.
- 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.

Appendices

Appendix A

Glossary