**Software Requirements Specification**

**for**

**DSA Hardware Store**

**Version 0.9**

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**Revision History**

| **Name** | **Date** | **Reason For Changes** | **Version** |
| --- | --- | --- | --- |
| **Jeffrey Manobanda** | **10/05/2023** | **IEEE REQUIREMENTS** | **Version 0.9** |
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**Definition**

Software Requirements Specification for DSA Hardware Store

**Abstract**

The project is a comprehensive software solution that has been designed to meet the specific needs of the hardware store. In addition to automating and optimizing inventory and sales management processes, the software also includes features such as a user-friendly and intuitive interface for easy navigation, the ability for customers to browse and purchase products through the application, and the ability to view special promotions and offers. Additionally, the software is designed to handle a high volume of simultaneous users without affecting its performance, ensuring that the application remains fast and responsive even during peak usage periods. The application is also designed to be secure, protecting users' personal information and complying with all applicable laws and regulations. The software team is committed to providing ongoing technical support and updates to ensure that the application continues to meet the needs of the hardware company and its customers o buy products at the hardware store. It will allow them to view the inventory and product catalog, as well as make purchases.

**2.2 Product functions**

* Inventory: Customers will be able to see which products are available at the hardware store.
* Product catalog: Customers will be able to browse the product catalog and see details about each product. Promotions and offers: Customers will be able to view special promotions and offers in the application.
* Shopping cart: Customers will be able to add products to the shopping cart and make a purchase.
* Customer service: Customers will be able to contact customer service through the application.

1. **Introduction**

**1.1 Purpose**

The purpose of this document is to define the requirements for a hardware store platform so that customers can view inventory and product catalog, sign in using their ID, and shop efficiently. In addition, we must ensure that the application is easy to use and adapts to the specific needs of the client.

**1.2 Scope of the system**

The application will include the following features:

* Inventory: An inventory management system will be required that allows users to see the available quantity of each product in real time. This system must be accurate and constantly updated so that customers can make informed decisions about their purchases.
* Product Catalog: The product catalog functionality involves the creation of a product database with details such as images, descriptions, prices, among others. To implement this feature, it is necessary to have a content management system that allows the creation, update and deletion of products easily.
* Promotions and offers: To offer promotions and special offers in the application, a promotion management system will be required that allows users to view and apply discounts to selected products. This system should be easy to use and ensure discounts are applied correctly.
* Shopping Cart: Shopping cart functionality involves allowing customers to add products to a virtual cart and make a purchase. To implement this, a shopping cart management system will be required that allows adding, removing and updating selected products before finalizing the purchase.
* Customer Service: Customer service functionality involves providing a way for customers to contact customer service with questions or problems. This can be accomplished through a live chat system or a contact form that allows customers to submit questions and receive responses in real time.

**1.3 Definitions**

Customer: Person who uses the application to view the inventory and product catalog, and make purchases.

ID: Identification document used by customers to register in the application.

**1.4 References**

IEEE Std. 830-1998: IEEE Recommended Practice for Software Requirements Specifications.

**2 Overview**

**2.1 System perspective**

The application will be a useful tool for customers who want to buy products in the hardware store. It will allow them to view the inventory and product catalog, as well as make purchases. This implies the implementation of a series of functions and characteristics that allow users to visualize the inventory and the product catalog in a clear and detailed way. One of the main advantages of the application will be the possibility of making purchases from the comfort of home or from any place, without having to physically visit the hardware store. This is especially useful for customers who don't have enough time or are away from the store. In addition, the app will also allow customers to see the promotions and special offers that are offered in the store, which can motivate them to buy more products.

**2.2 System functions**

Inventory: An inventory management system will be required that allows users to see the available quantity of each product in real time. This system must be accurate and constantly updated so that customers can make informed decisions about their purchases.

Product Catalog: The product catalog functionality involves the creation of a product database with details such as images, descriptions, prices, among others. To implement this feature, it is necessary to have a content management system that allows the creation, update and deletion of products easily.

Promotions and offers: To offer promotions and special offers in the application, a promotion management system will be required that allows users to view and apply discounts to selected products. This system should be easy to use and ensure discounts are applied correctly.

Shopping Cart: Shopping cart functionality involves allowing customers to add products to a virtual cart and make a purchase. To implement this, a shopping cart management system will be required that allows adding, removing and updating selected products before finalizing the purchase.

Customer Service: Customer service functionality involves providing a way for customers to contact customer service with questions or problems. This can be accomplished through a live chat system or a contact form that allows customers to submit questions and receive responses in real time.

**2.3 User characteristics**

The users of the application will be mainly customers who want to buy products in the hardware store. These customers could be people who do not have enough time to visit the store physically, or who prefer to make their purchases digitally for convenience or security. In addition, the app can also be used by customers who want to view the store's inventory and product catalog, even if they don't intend to make an immediate purchase.

**2.4 Restrictions**

In the development of the application, it is important to take into account the applicable laws and regulations to avoid any legal or compliance issues. This could include regulations on data privacy, consumer protection, intellectual property and electronic commerce, among others. In addition, it is important to be aware of regulations specific to the hardware industry, such as those related to the sale of dangerous products or the handling of certain materials.

**2.5 Assumptions and dependencies**

It is important to note that the assumption that customers will have access to a mobile device or computer with an Internet connection to use the application may limit the scope of the application.

**2.6 Future requirements**

As the application is developed and used, additional requirements may be identified to improve its functionality and capability. For example, you can consider implementing advanced features such as personalized product recommendations based on customer purchase history or integration with mobile payment systems to offer an even easier and more secure shopping experience.

**3 Specific requirements**

**3.1.1 User interfaces**

The application should have a friendly and intuitive user interface that allows customers to easily navigate inventory, product catalog, promotions, cart and customer service, as well as make purchases. To achieve this, the interface will have the following characteristics:

- Home Page: The home page will have a search bar at the top to allow customers to quickly search for products. Below the search bar, there will be sections clearly labeled for inventory, product catalog, promotions and offers, and customer service.

- Inventory Page: The inventory page will have a list of product categories on the left side and a grid view of products on the right side. Customers will be able to click on a category to view only the products in that category or they will be able to search for products using the search bar at the top.

- Product Catalog Page: The product catalog page will have a similar layout to the inventory page, with a list of categories on the left side and a grid view of products on the right side. Customers will be able to click on a product to see more details.

- Promotions and offers page: The promotions and offers page will have a carousel view on top to show featured promotions and a list below to show all available promotions and offers.

- Cart page: The cart page will display the products that the customer has added to their cart along with the quantity and price. Customers will be able to change the quantity or remove products before proceeding to checkout.

- Customer Service Page: The customer service page will have options to contact customer service via chat, email, or phone. There will also be a FAQ section to help customers solve common problems on their own.

These features will be used to create a friendly and intuitive user interface that allows customers to easily navigate the inventory and product catalog, as well as make purchases.

**3.1.2 Hardware interfaces**

The application must be compatible with the most common mobile devices and computers used by customers to access the application. This includes ensuring that the application works correctly on different operating systems and web browsers, as well as on devices with different screen sizes and resolutions. Also, the app must be optimized for fast and efficient performance on all supported devices.

**3.2 functional requirements**

**3.2.1 Functional requirement 1**

User registration: The application should allow users to register and create an account in order to access all the functionalities of the application, such as viewing products, making purchases, managing their profile, among others.

**3.2.2 Functional requirement 2**

Product search: The application should allow users to search for specific products using different search criteria, such as name, brand, category, price, among others.

**3.2.3 Functional requirement 3**

Add products to the shopping cart: The application should allow users to add products to the virtual shopping cart, in order to make a purchase later.

**3.2.4 Functional requirement 4**

Making purchases: The application should allow users to make a purchase of the selected products in their shopping cart, in a safe and reliable way.

**3.2.5 Functional requirement 5**

Management of promotions and discounts: The application should allow users to see the promotions and discounts available, as well as apply them to their purchase.

**3.2.6 Functional requirement 6**

Customer Service: The application should provide a way for users to contact customer service to ask questions or resolve problems.

**3.2.7 Functional requirement 7**

User profile management: The application should allow users to manage their profile, including updating their personal information, managing their purchase history, and setting their notification preferences.

**3.3 Data requirements**

The data requirements for the application include the creation and maintenance of a product inventory database and a product catalog with details such as images, descriptions, prices, and other relevant data. In addition, customer data management will be required, including contact information and purchase details.

**3.4 Non-functional requirements**

**3.4.1 Performance requirements**

Non-functional performance requirements refer to expectations for how the system should perform in terms of speed, capacity, and efficiency. This can include maximum response time allowed, maximum concurrent user capacity, page load time, and maximum transaction duration.

**3.8 System attributes**

**3.8.1 Security**

Security is a critical system attribute, especially in an e-commerce application like the one being developed. The application must ensure the privacy and security of user data, such as personal, payment and purchase information.

**3.8.2 Reliability**

Reliability is a crucial system attribute that ensures that the application works reliably and consistently. To achieve high reliability, it is important to implement error detection and failover mechanisms that allow the application to continue to operate without significant interruptions in the event of errors or failures.

**3.3 Functional Requirements**

3.3.1. Request login information or if you do not have them, an account is created where an email and password are requested.

3.3.2. Internet connection to access the extensive database of all products along with their availability

3.3.3. A valid form of payment to be able to purchase your products that you will have in the cart if the account is not correct you will not be able to access said products.

3.3.4. The application will have a mobile application

3.3.5. The application recognizes the code that the customer enters whether it is an offer or a promotion

3.3.6. The application recognizes through the search bar the product that the customer is looking for or products similar to his search

**3.4. System Attributes**

3.4.1. Security

The system will be protected against unauthorized access and will focus on user authentication and access management, application vulnerability scanners, cookie management, traffic visibility and IP deny lists.

3.4.2. Performance

It will be optimized so that it can be used by many clients without reducing its performance. In addition, the application will be easy to use for the user.

Information rescued from:

[Especificación de Requisitos Software según el estándar IEEE 830 - FdIwiki ELP (ucm.es)](https://wikis.fdi.ucm.es/ELP/Especificaci%C3%B3n_de_Requisitos_Software_seg%C3%BAn_el_est%C3%A1ndar_IEEE_830)

[Especificación de requisitos de software - Wikipedia, la enciclopedia lib](https://es.wikipedia.org/wiki/Especificaci%C3%B3n_de_requisitos_de_software)

