**Software Requirements Specification**

**for**

**DSA Hardware Store**

**Version 0.9.9**

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**Revision History**

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# Introduction

## 1.1 Purpose

The purpose of this document is to define the requirements for a hardware platform for customers to view inventory and product catalog, log in with their ID, and shop efficiently. Also, that the owner of the hardware store can modify the products and the cost.

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.

# 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.

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 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.

- 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.

### 3.2 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.

## 3.3 Functional requirements

### USER

#### 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, to make a purchase later.

#### 3.2.4 Functional requirement 4

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.

#### 3.2.5 Functional requirement 5

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

#### 3.2.6 Functional requirement 6

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

### OWNER

#### 3.2.7 Functional requirement 7

Add or remove a product to the catalog: The software should allow the owner to add a new product to the system, providing details such as name, description, category, price, and quantity in stock. If the product is available in inventory, the corresponding information must be recorded. In the event that there is no stock of the product, the system must allow the owner to record this situation and establish a notification to replenish the inventory. In addition, the owner must have the ability to remove a product from the catalog, when necessary, automatically updating the information related to the inventory.

#### 3.2.8 Functional requirement 8

Modify product data: The system will have a function to enter the product catalog in the database. Certified users can add new information about each product, such as name, description, prices, and categories. Before allowing entry, you will be confirmed that the essential fields have been completed.

#### 3.2.9 Functional requirement 9

Modify product data in the catalog: The system will allow the modification of the data of the existing products in the catalogue. Authorized users will be able to access and edit product information in a timely manner. Modifications can be made in fields such as name, description, price and category. The system will keep a record of all changes made, including the date and the user responsible for each change.

#### 3.2.10 Functional requirement 10

Product offerings: The hardware store business owner requires a system that allows him to manage promotions and offers effectively. The software must offer the ability to create and schedule special promotions, set percentage or dollar value discounts, and define start and end dates for each promotion.

## 3.4 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.

## 3.5 Non-functional requirements

### 3.5.1 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.

# 4. System attributes

## 4.1. 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.

## 4.2. 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.

**Information rescued from:**

*Especificación de Requisitos Software según el estándar IEEE 830 - FdIwiki ELP*. (2016). Fdi.ucm.es. <https://wikis.fdi.ucm.es/ELP/Especificaci%C3%B3n_de_Requisitos_Software_seg%C3%BAn_el_est%C3%A1ndar_IEEE_830>

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