Service Directory

System Requirements Specification

**DOCUMENT HISTORY AND INFORMATION**

**History of Amendments:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date** | **Version** | **Modified Section** | **Summary of Change** | **Author** |
| 17/10/2024 | 0.1 | Write SRS | Write SRS | Nhut Tan |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## Introduction

The Product Filter function is a tool that assists users in quickly and accurately searching for and selecting products on the e-commerce website. With a large number of available products, this function helps users minimize search time by providing filtering criteria such as price, brand, technical specifications, color, and promotions. This enables users to easily find products that meet their specific needs without having to browse through the entire product catalog.

### Purpose

The purpose of the Product Filter function is to enhance the user experience by enabling users to efficiently search for and filter products on the website. This function allows users to narrow down their search results based on specific criteria such as price, brand, technical specifications, color, and promotions, making it easier for them to find products that meet their needs.

### Definitions, Acronyms, and Abbreviations

* SRS: Software Requirements Specification
* UI: User Interface
* SKU: Stock Keeping Unit

## Overall Description

### Product Perspective

The Product Filter function is an essential part of the e-commerce website, allowing users to quickly find products of interest. It will interact with the product database and display results in real-time.

### Product Functions

The Product Filter function includes the following sub-functions:

* Filter products by price
* Filter products by brand
* Filter products by technical specifications
* Filter products by color
* Filter products by promotions

### User Classes and Characteristics

* Regular Users: Consumers looking to search for and purchase products.
* Administrators: Manage the product listings and monitor user feedback.

### Operating Environment

The Product Filter function will operate on:

* Web browsers (Chrome, Firefox, Safari, Edge) across both desktop and mobile devices.

## Specific Requirements

### Filter by Price

* **Description**: Users can filter products based on a price range.
* **Input**: Price range (minimum, maximum).
* **Output**: List of products within the selected price range.
* **Requirements**:
  + The system must validate the price range.
  + The system should display an error message if the price range is invalid (e.g., negative prices, minimum price greater than the maximum).

### Filter by Brand

* **Description**: Users can filter products by brand.
* **Input**: Brand list (Apple, Samsung, Oppo, Xiaomi).
* **Output**: List of products matching the selected brands.
* **Requirements**:
  + The system must display all available brands.
  + Users should be able to select multiple brands at once.

### Filter by Technical Specifications

* **Description**: Users can filter products based on technical specifications such as RAM, storage, battery.
* **Input**: The desired technical specifications.
* **Output**: List of products that meet the selected specifications.
* **Requirements**:
  + The system must display the technical specifications for each product.
  + Users should be able to filter by multiple specifications simultaneously.

### Filter by Color

* **Description**: Users can filter products based on color.
* **Input**: Product color.
* **Output**: List of products in the selected color.
* **Requirements**:
  + The system must display all available colors for each product.

### Filter by Promotions

* **Description**: Users can filter products currently on promotion.
* **Input**: Promotion filter option.
* **Output**: List of products currently under promotion.
* **Requirements**:
  + The system must display products with current promotions.

## Use Case: Product Filter

**Actor**: User

**Pre-condition**: The user has accessed the product page.

**Post-condition**: The system displays the list of filtered products.

**Main Flow**:

1. The user navigates to the product page and views the available product list.
2. The user identifies and selects a filtering category (e.g., price, brand, technical specifications, color, or promotions).
3. The system displays relevant options within the chosen filtering category (e.g., price range sliders, brand checkboxes, technical spec dropdowns).
4. The user provides input based on their filtering criteria:
   1. For price: the user sets a minimum and maximum price.
   2. For brand: the user selects one or more brands from the available options.
   3. For technical specifications: the user selects specifications such as RAM, storage, or battery life.
   4. For color: the user selects one or more colors.
   5. For promotions: the user enables the promotions filter.
5. The user submits the filter request by clicking on the "Apply Filters" button.
6. The system validates the input (e.g., checking if the price range is valid).
7. The system retrieves the relevant product data from the database that matches the selected filters.
8. The system dynamically updates the product listing to display only the products that meet the selected criteria.
9. The user reviews the filtered list of products.

**Alternate Flow**:

* If the input information is invalid (e.g., price range is not logical), the system displays an error message and prompts the user to correct the input.

## Use-case Specification

