

**The Diamond Store**

**Software Requirement Specification**

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**SIGNATURE PAGE**

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# Introduction

## Purpose

The purpose of this Software Requirements Specification (SRS) document is to provide a complete and detailed description of the external operations of the Diamond Store System (The Diamond Store). This document will clarify functional requirements, non-functional requirements, design constraints and other essential elements to provide a comprehensive description of the requirements for the software. The research team and software engineers will be able to use this SRS as a ‘test’ to see if the system is as per their expectations. If it is not to their expectations, the research team, software engineers will change the SRS to fit the end users needs.

## Scope

Diamond Store System (The Diamond Store) is designed to improve the business management efficiency of diamond stores, including product management, sales, customer relations and human resources functions. The goal of the system is to provide an integrated platform to help optimize management processes, improve customer service and understand the status and information of store owners through reporting and analysis tools.

## Definitions, Acronyms, and Abbreviations

| **Acronyms** | **Definitions** |
| --- | --- |
| JSON | JavaScript Object Notation |
| API | Application Programming Interface |
| UC | Use Case |
| CRM | Customer Relationship Management |
| BR | Business Rule |
| Guest | Someone who is outside of the system/does not log into the system |
| JWT | JSON Web Token |
| CORS | Cross-Origin Resource Sharing |
| MVC | Model-View-Controller |
| REST | Representational State Transfer |
| CU | Customer |
| AD | Admin |
| AS | Applicable Standards |
| LCO | Legal, Copyright, and Other Notices |
| LR | Licensing Requirements |
| UCI | User Interfaces |
| HI | Hardware Interfaces |
| SI | Software Interfaces |
| CI | Communications Interfaces |
| PC | Purchased Components |
| OU | On-line User Documentation |
| HS | Help System Requirements |
| DC | Design Constraints |
| SUP | Supportability |
| PER | Performance |
| REL | Reliability |

## References

[Instructions for integrating PAY system - VNPAY payment gateway](https://sandbox.vnpayment.vn/apis/docs/thanh-toan-pay/pay.html)

[Building REST services with Spring](https://spring.io/guides/tutorials/rest)

[Sending Email](https://docs.spring.io/spring-boot/reference/io/email.html)

[Spring Security + JWT (Json Web Token) + Hibernate](https://viblo.asia/p/huong-dan-spring-security-jwt-json-web-token-hibernate-oOVlYGmoK8W)

[Spring Boot – REST API Documentation using Swagger](https://www.geeksforgeeks.org/spring-boot-rest-api-documentation-using-swagger/)

[Quickstart: Deploy your first web application to Azure Spring Apps](https://learn.microsoft.com/en-us/azure/spring-apps/enterprise/quickstart-deploy-web-app?tabs=Azure-portal%2CAzure-portal-ent&pivots=sc-enterprise)

[The Simplest Way to Calculate Diamond Price](https://tjc.com.vn/cach-tinh-gia-kim-cuong/)

[Full gold price list (prices updated continuously)](https://tygiausd.org/GiaVang/dat-gia-vang/widgets)

## Overview

### *1.5.1 Project Information*

| **Project Name** | The Diamond Store - (Diamond Shop System, phần mềm quản lý cửa hàng kim cương) |
| --- | --- |
| **Project Code** | TDS - The Diamond Store |
| **Group No.** | 2 |
| **Software Type** | Web Application |
| **Website** | [www.thediamondstore.site](http://www.thediamondstore.site) |

### *1.5.2 Project Team*

#### *1.5.2.1 Supervisor*

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### 

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| Nguyen Minh Thien Phuc | phucnmtde170689@fpt.edu.vn | Team Member |

# Overall Description

## 2.1 Product Perspective

### 2.1.1 System interfaces

* The system integrates with the email service via JavaMail API to send notifications, OTP codes and order information to customers.
* The web application runs on the latest version of Chrome or Edge browser.

### 2.1.2 User interfaces

* The application GUI provides menus and buttons that allow easy control with the mouse.
* Provides full administrative functions such as product management, user management, report viewing, and system configuration.
* The interface will be designed to be intuitive, easy to navigate, and support complex management operations effectively.

## 2.2 Product Function

### 2.2.1 Customer function

* **View product:** Customers can browse all the products in the store (diamonds, jewelry) and view detailed information about each item, such as price, size, clarity, cut, and more.
* **Check out:** This typically involves finalizing the shopping cart, entering shipping and payment information, reviewing the order details, and confirming the purchase.
* **Manage cart:** Customer can also view a summary of their selected products, including details like price, total cost, and any applied discounts.

### 2.2.2 Administrator function

* **Manage account:** Admin can manage accounts by adding, deleting or editing (status, role).

### 2.2.3 Manager function

* **Manage Promotion Code:** Manager control the provision of promotion code: creation, deletion, or editing (duration, discount amount, description) of promotion code to support customers.
* **Manage Product’s price list:** Manager can efficiently oversee and update the pricing of products. This includes setting new prices, adjusting existing ones to match the current market conditions.
* **Manage Warranty Paper:** Manager can oversee the warranty papers for each product sold in the store by creating, editing (time), or delete.
* **Manage Certificate paper:** Manager can oversee certificate papers for each diamond sold in the store by creating, editing (time), or deleting.
* **View DashBoard:** Manager can access a centralized graphical interface that displays key metrics, analytics, and performance indicators relevant to the operations or activities they are overseeing.

## 2.3 User characteristics

| **Customer** | The diamond store customers are people who come to the website to search and buy diamond and jewelry products as well as related information including: diamond prices, current gold prices or diamond knowledge,... |
| --- | --- |
| **Manager** | Manager is the person with authority to perform the process of managing adding, deleting, and editing products on the website as well as orders from customers. But it is not possible to manage account information in the system |
| **Administrator** | Admin is the person with the highest level of authority, especially able to manage account information in the system, but can only review other management sections as well as see if the website is operating stably. |

## 2.4 Constraints

* The system must be easily scalable to support an increased number of users without changing the underlying architecture.
* The system must handle at least 1000 requests per second without experiencing performance degradation.
* The system must be developed on the Java Spring Boot platform and use MySQL database.

## 2.5 Assumption and Dependencies

* Users (Admin, Manager, Customer) have basic knowledge of using computers and web browsers.
* The network infrastructure at the store and at the end user side is stable and fast enough to ensure an uninterrupted user experience.
* Necessary hardware devices such as computers, barcode scanners, and POS devices are available and properly installed.
* The system depends on the deployment and maintenance of the MySQL database.
* Online payment systems depend on third-party services (e.g., VNPay) to process financial transactions.

## 2.6 Requirement Subsets

* Autofill order form information for logged in users.
* Send orders to admins when customers buy products.
* Specific requirements for each user role in the system, including Admin, Manager, and Customer. Admin will have access and manage the entire system, Manager will manage daily activities and reporting, Customers will be able to browse, purchase products, and track their orders.

# FUNCTIONAL Requirements

## Use Cases Diagram



## Login

| **USE CASE-1 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC001 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Login | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Admin, Manager, Customer.  **Summary:**  This use case describes the process of logging into the system. The user (Admin, Manager, or Customer) provides their credentials to access their respective functionalities within the platform.  **Goal:**  To authenticate the user and grant them access to their respective dashboard and features within the system.  **Triggers**  The user wants to access the system and initiates the login process by navigating to the login page and entering their credentials.  **Preconditions:**  The actor must have a registered account.  **Post Conditions:**  Actor is redirect to Landing Page.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor clicks on the “ĐĂNG NHẬP/ ĐĂNG KÝ” button. | The system redirects actor to “ĐĂNG NHẬP/ ĐĂNG KÝ” screen and show out login form with:   * Email * Mật khẩu | | Actor fills in login form and clicks on “Đăng nhập” button. | The system redirects actor to “Trang chủ” screen. |   **Alternative Scenario:**  N/A  **Exceptions:**  The actor’s account is locked or is not verify.  The email or password is incorrect.  **Relationships:**  This use case is related to “Register” (UC-002).  **Business Rules:**  N/A | | | | |

## Register

| **USE CASE-2 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC002 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Register | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Guest.  **Summary:**  This use case describes the process of registering a new account within the system. The user (Customer) provides necessary information to create an account and gain access to the platform.  **Goal:**  To enable users to create an account by providing required details and gain access to the system.  **Triggers**  The user wants to access the system and initiates the registration process by navigating to the registration page.  **Preconditions:**  N/A  **Post Conditions:**  Actor is redirect to Landing Page  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor clicks on the “ĐĂNG NHẬP/ ĐĂNG KÝ” button. | The system redirects actor to “ĐĂNG NHẬP/ ĐĂNG KÝ” screen and show out register form with:   * Tên tài khoản * Email * Mật khẩu | | Actor fills in register form, clicks on checkbox “Tôi đã đọc và đồng ý với các điều khoản và điều kiện của trang web” and “Đăng nhập” button. | The system shows notification “Đăng ký thành công. Vui lòng kiểm tra email để xác nhận tài khoản.”  The system sends a verification email with a verification form in gmail. | | Actor checks the email filled in for the verified link. |  | | Actor clicks on the “Verify” button. | The system redirects actor “ĐĂNG NHẬP/ ĐĂNG KÝ” screen. |   **Alternative Scenario:**  N/A  **Exceptions:**  The actor enters incomplete information.  The email is invalid.  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  The email must be in the following format: @gmail.com or @fpt.edu.vn. | | | | |

## Change Password

| **USE CASE-3 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC003 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Change Password | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Admin, Manager, Customer.  **Summary:**  This use case describes the process of registering a new account within the system. The user (Customer) provides necessary information to create an account and gain access to the platform.  **Goal:**  To enable users to create an account by providing required details and gain access to the system.  **Triggers**  This use case describes the process by which a user can change their account password within the system. The user needs to provide their email, current password and a new password to update their credentials.  **Preconditions:**  The actor must have a registered account.  **Post Conditions:**  Actor is redirect to Landing Page  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor clicks on the “Quên mật khẩu?” button. | The system redirects actor to “Password Reset” pop-up and show out password reset form with:   * Email | | Actor fills in the password reset form and clicks on the “Reset Password” button. | The system shows message “Email đặt lại mật khẩu đã được gửi thành công.”  The system sends an email with a password reset link to the provided email address. | | Actor checks the email filled in for the password reset link. |  | | Actor clicks on the password reset link in the email. | The system redirects the actor to the password reset page where the actor can enter a new password. | | Actor enters a new password and confirms it. | The system validates the new password and updates it in the database. | | Actor clicks on the “Set new password” buttoom. | The system redirects the actor to the “ĐĂNG NHẬP/ ĐĂNG KÝ” screen and shows message “Mật khẩu đã được đổi thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  The email is invalid.  **Relationships:**  N/A  **Business Rules:**  The email must be in the following format: @gmail.com or @fpt.edu.vn. | | | | |

## Logout

| **USE CASE-4 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC004 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Logout | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Admin, Manager, Customer.  **Summary:**  This use case describes the process by which a user logs out from the system. The user initiates the logout process to end their current session.  **Goal:**  To securely end the user's session and ensure that the user's data is protected.  **Triggers**  The user decides to end their session and clicks on the logout button.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  Actor is redirected to Landing Page.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor clicks on the “ĐĂNG XUẤT” button on Landing Page. | The system redirects actor to “Trang chủ” and shows message “Đăng xuất thành công.” |   **Alternative Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor clicks on the “ĐĂNG XUẤT” link in Footer Tag. | The system redirects actor to “Trang chủ” and shows message “Đăng xuất thành công.” |   **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## Update Profile - CU

| **USE CASE-5 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC005 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Update Profile | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Customer.  **Summary:**  This use case describes the process by which a user updates their profile information within the system. The user can change personal details such as name, email, password, and other relevant information.  **Goal:**  To allow users to keep customer’s profile information up to date and accurate.  **Triggers**  The user decides to update customer’s profile information and navigates to the profile settings page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  Actor is redirected to Landing Page.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor clicks on the “TÀI KHOẢN” button on Landing Page. | The system redirects actor to “TÀI KHOẢN” page and show out account detail form with:   * Tên tài khoản * Email * Địa chỉ * Số điện thoại | | Actor updates the desired profile fields (e.g., Tên tài khoản, Email, Địa chỉ, Số điện thoại). | The system validates the input data. | | Actor clicks on “Save Changes” | The system updates the profile information in the database.  The system shows a confirmation message “Cập nhật thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  The “Số điện thoại” is in the wrong format.  **Relationships:**  This use case is related to “Loginl” (UC-001).  **Business Rules:**  The phone number must start with one of the following prefixes: 090, 093, 089, 096, 097, 098. | | | | |

## Update Profile - AD

| **USE CASE-6 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC006 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Update Profile | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Admin.  **Summary:**  This use case describes the process by which a user updates their profile information within the system. The user can change personal details such as name, email, password, and other relevant information.  **Goal:**  To allow users to keep customer’s profile information up to date and accurate.  **Triggers**  The user decides to update customer’s profile information and navigates to the profile settings page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  Actor is redirected to AdminPage.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor clicks on the “Edit” button in “Thông tin cá nhân” Page. | The system show out account detail form with:   * Tên tài khoản * Email * Địa chỉ * Số điện thoại * Role * Password | | Actor updates the desired profile fields (e.g., Tên tài khoản, Email, Địa chỉ, Số điện thoại). | The system validates the input data. | | Actor clicks on “Save” | The system updates the profile information in the database.  The system shows a confirmation message “Cập nhật thông tin thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  The “Số điện thoại” is in the wrong format.  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  The phone number must start with one of the following prefixes: 090, 093, 089, 096, 097, 098. | | | | |

## View Profile - CU

| **USE CASE-7 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC007 | **Use-case Version** | | 1.0 |
| **Use-case Name** | View Profile | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Customer.  **Summary:**  This use case describes the process by which a customer views their profile information within the system. The user can see their personal details such as name, email, phone number, and other relevant information.  **Goal:**  To allow users to view their profile information.  **Triggers**  The user decides to view their profile information and navigates to the profile page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The actor’s profile information is displayed on the screen.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor clicks on the “Tài khoản” button on the Landing Page. | The system show out account detail form with:   * Tên tài khoản * Email * Địa chỉ * Số điện thoại |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## View Profile - AD

| **USE CASE-8 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC008 | **Use-case Version** | | 1.0 |
| **Use-case Name** | View Profile | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Admin.  **Summary:**  This use case describes the process by which a customer views their profile information within the system. The actor can see their personal details such as name, email, phone number, and other relevant information.  **Goal:**  To allow actor to view their profile information.  **Triggers**  The actor decides to view their profile information and navigates to the profile page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  Actor is redirected to AdminPage.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor clicks on the “Thông tin cá nhân” button on the Landing Page. | The system show out account detail form with:   * Tên tài khoản * Email * Địa chỉ * Số điện thoại * Role * Password |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## Add Product To Cart

| **USE CASE-9 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC009 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Add Product To Cart | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Customer.  **Summary:**  This feature allows actors to add product to shopping cart.  **Goal:**  To provide specific information about choosed product to actor.  **Triggers**  Actor enter amount product and click “Add to cart”. If product is Jewelry they need to choose enter Size.  **Preconditions:**  The actor must login to the system.  **Post Conditions:**  The product is successfully added to the shopping cart.  The cart is updated with the new product and its quantity.  The actor is notified of the successful addition.  The system updates the inventory to reflect the added product.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login in the system | System display success login | | Actor click on “Sản phẩm” | System navigator to Product page | | Actor click on “Kim cương” or “Trang sức” | System navigator to Diamond page or Jewelry page | | Actor choose a product | System directs the actor to the product detail Page.  System shows all the information including:   * All the information about the product. * Quantity actor want. * Add to cart “ button. | | Actor enter quantity and click “Add to cart” | System display success add product to cart and save cart in database |   **Alternative Scenario:**  N/A  **Exceptions:**  If product is Jewelry, actor need choose Size.  **Relationships:**  UC-01  UC-15  **Business Rules:**  Actor must be logged in to add products to the cart.  Quantity of the product must be a positive integer. | | | | |

## Search Product By Name

| **USE CASE-11 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC011 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Search Product | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Customer, Guest  **Summary:**  This feature allows actor to search product they want.  **Goal:**  To enable the actor to find specific products quickly and efficiently.  **Triggers**  Actor enters a product name or keyword into the search bar and initiates a search.  **Preconditions:**  Actor must enter name of product they want to search.  **Post Conditions:**  Product contain correct name will show.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | In “Trang Chủ” page or Product page, actor enter product name they want in search bar and enter. | * System directs the actor to the product Page if they search from “Trang Chủ”. * System processes the search query and retrieves relevant products from the database. * System displays a list of search results that match the query name. |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  N/A  **Business Rules:**   * Actor must be logged in to search for products. * The search term must be relevant to the product names or categories available in the system. | | | | |

## Search Filter Product

| **USE CASE-12 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC012 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Search Filter Product | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Customer, Guest  **Summary:**  This feature allows actors to filter products based on specific criteria the the web provided in each page:   * Diamond: Colour, Cut, Shape, Origin, Clarity, Carat Size, Carat Weight, Price * Jewelry: Gender, Price   **Goal:**  To show product have information to the actor based on their filter criteria.  **Triggers**  Actor selects filter options and applies the filter.  **Preconditions:**  N/A  **Post Conditions:**  The filtered product list is displayed to the actor based on the selected criteria.  The actor can view and select products from the filtered list.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor go to “Kim Cương” or “Trang Sức” page and selects filter criteria the page provide | System directs the actor to the product detail Page.  System displays the product page with filter options.  System displays a list of products matching the filter criteria. |   **Alternative Scenario:**  N/A  **Exceptions:**  If the actor selects an invalid combination of filter criteria (e.g., no products available in the selected category and price range), the system displays a message indicating no products were found.  **Relationships:**  N/A  **Business Rules:**  The filter criteria must be relevant and applicable to the available products. | | | | |

## View Price List

| **USE CASE-13 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC013 | **Use-case Version** | | 1.0 |
| **Use-case Name** | View Price List | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Customer, Guest  **Summary:**  This feature allow actor know what price Diamond or Gold in present  **Goal:**  To provide actors with an overview of Diamond and Gold price  **Triggers**  Actor navigates to the price list page and selects a price list option: “Kim cương” or “Vàng”  **Preconditions:**  N/A  **Post Conditions:**  The price list is displayed to the actor.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor click on “Bảng giá” to navigate to price list page. | System directs the actor to the price list page | | Choose “Kim cương” or “Gold” | System directs the actor to the “kim cương” or “Gold” System displays the list of products along with their prices. |   **Alternative Scenario:**  N/A  **Exceptions:**  If there is an error retrieving the price list, the system displays an error message and prompts the actor to try again later.  **Relationships:**  N/A  **Business Rules:**  The system must ensure that the price list is up-to-date and accurately reflects the current prices of the products. | | | | |

## View Product Detail

| **USE CASE-14 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC014 | **Use-case Version** | | 1.0 |
| **Use-case Name** | View Product Detail | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Customer, Guest  **Summary:**  This feature allow actor see detail of a product  **Goal:**  To provide product information to actor  **Triggers**  Actor click on product name to direct to product detail page  **Preconditions:**  The product must be available in the system.  **Post Conditions:**  The actor is presented with detailed information about the selected product.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor navigates to “Sản phẩm”, “Kim Cương”, “Trang sức” page | System displays the list of products. | | Actor clicks on a specific product from the list. | System displays the product detail page with all information, and the "Add to cart" button, Quantity selector |   **Alternative Scenario:**  N/A  **Exceptions:**  If there is an error retrieving the product details, the system displays an error message and prompts the actor to try again later.  **Relationships:**  N/A  **Business Rules:**  The product details accurately reflect the current information about the product. | | | | |

## Select Jewelry Size

| **USE CASE-15 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC015 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Select Jewelry Size | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Customer, Guest  **Summary:**  This feature allows actors to select their jewelry size using a guide provided by the system.  **Goal:**  To help actors determine their correct jewelry size before making a purchase.  **Triggers**  Actor selected a jewelry, go to jewelry detail page, in Size click on “Hướng dẫn đo ni” and follow the guide to choose the right size  **Preconditions:**  N/A  **Post Conditions:**  The actor is provided with instructions on how to measure their jewelry size.  The actor can select the appropriate size when add to cart  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor go to “Sản phẩm” or “Trang sức” page. | System displays the list of products. | | Choose a jewelry | System displays the jewelry detail page with all information, must have “Hướng dẫn đo ni" | | Click “Hướng dẫn đo ni”. Follow guild | System show popup guild to measure jewelry size | | Actor clicks “Select Size” to choose. | System display list of size |   **Alternative Scenario:**  The Actors don't understand the guild. System provides additional resources such as FAQs or customer support contact information to assist the actor.  **Exceptions:**  If there is an error displaying the size guide, the system displays an error message and prompts the actor to try again later.Relationships:  **Relationships:**  N/A  **Business Rules:**  The size guide must be accurate and easy to understand.  The system must ensure that the size information is up-to-date and reflects current sizing standards. | | | | |

## Update Cart

| **USE CASE-16 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC016 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Update Cart | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Customer  **Summary:**  To provide actors with the ability to manage the contents of their shopping cart before checkout  **Goal:**  To provide actors with the ability to manage the contents of their shopping cart before checkout.  **Triggers**  Actor navigates to the cart page and updates the quantity of existing products or adds new products to the cart.  **Preconditions:**  The actor must be logged in to the system.  The actor must have at least one product in their cart.  **Post Conditions:**  The cart is updated with the new quantities and any additional products.  The notification successful update is show.  The system updates the inventory to reflect the changes in the cart.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor go to cart. | System show all product actor have in cart and “Tổng tiền” | | Click “Cập nhật giỏ hàng” to update Quantity | System show notification when update success | | Click “Tiếp tục mua sắm” to add new product | System show product add to cart |   **Alternative Scenario:**  System displays an error message indicating the invalid quantity and prompts the actor to enter a valid amount.  **Exceptions:**  If there is an error updating the cart, the system displays an error message and prompts the actor to try again later.  **Relationships:**  UC-01  **Business Rules:**  Actor must be logged in to update the cart.  Quantity of each product must be a positive integer.  System must check product availability before updating the cart.  Inventory must be updated in real-time to reflect the current stock levels. | | | | |

## 

## View Cart

| **USE CASE-17 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC017 | **Use-case Version** | | 1.0 |
| **Use-case Name** | View Cart | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Customer  **Summary:**  This feature allows actors to view the contents of their shopping cart.  **Goal:**  To enable customers to review the products they have added to their cart, including quantities, prices, and total amount.  **Triggers**  Actor clicks the "Cart" icon or “GIỎ HÀNG”.  **Preconditions:**  The actor must be logged in to the system.  **Post Conditions:**  The actor can see the list of products in the cart, including quantities, individual prices, and the total amount.  The actor can proceed to update or remove items in the cart.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor clicks the "Cart" icon or “GIỎ HÀNG”. | System displays the cart page with a list of products, their quantities, prices, and the total amount. | | Actor reviews the products in the cart. |  | | Actor can see the individual prices and total amount. |  |   **Alternative Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor's cart is empty. | System displays a message indicating the cart is empty and suggests continuing shopping. |   **Exceptions:**  If there is an error retrieving the cart details, the system displays an error message and prompts the actor to try again later.  **Relationships:**  UC-01  UC-17  **Business Rules:**  Actor must be logged in to view the cart.  The cart contents must reflect the most recent updates made by the actor.  All prices and totals must be calculated accurately. | | | | |

## Check Out

| **USE CASE-18 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC018 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Check Out | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Customer  **Summary:**  This feature allows actors to complete their purchase by checking out their shopping cart.  **Goal:**  To enable customers to finalize their purchase by add address, phone number, promotion code and redeem point( if have).  **Triggers**  Actor finish shopping, enter “Tiến hành tạo đơn hàng” to finish add to cart and go to check out page.  **Preconditions:**  The actor must have at least one product in their cart.  The cart must contain valid product quantities.  **Post Conditions:**  All product in cart and the total money was calculated and showed exactly.  Use Promotion code and point success to reduce the amount of money.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor click “Tiến hành tạo đơn hàng” in cart page. | System navigate actor to check out page and all product and money in cart show correctly. | | Actor enter Address, phone number |  | | Actor enter promotion code and click “Áp dụng”. | System shows a notification of successful promotion code application and reduces the total amount. | | Actor clicks “Sử dụng điểm tích lũy để thanh toán” to use points. | System shows a notification of successful point redemption and reduces the total amount. | | Actor click “VNPay” and “Đặt hàng”. | Success check out and go to the Order page. | | Actor clicks “Pay” on the Order detail page and completes payment in VNPay. | System navigator to order detail page and shows order summary | |  | System navigator to VNPay payment window | |  | System response payment success | |  | System change order status to “Đã thanh toán” and order detail is create |   **Alternative Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor want to go back to update cart. | System show alert actor need to delete the Order summary before going back. | | Actor does not enter Address or Phone number | System show error and notification for actor to enter all fields | | Actor want to see order detail by click on “View” | The system displays a notification for the actor to complete payment and order details will showing |   **Exceptions:**  If there is an error processing the checkout, the system displays an error message and prompts the actor to try again later.  **Relationships:**  UC-01  UC-17  **Business Rules:**  Actor must be logged in and cart have at least one product.  All information and money from cart was correct in the order information.  Promotion code and point be used successful and reduce total money exactly. | | | | |

## Delete Product In Cart

| **USE CASE-19 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC019 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Delete product in cart | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Customer.  **Summary:**  This feature allows actors to delete items from their shopping cart.  **Goal:**  To provide actors with the ability to remove products from their cart  **Triggers**  Actor selects a product and clicks the "x" button on the cart page.  **Preconditions:**  The actor must be logged in to the system.  The actor must have at least one product in their cart.  **Post Conditions:**  The product was selected be remove from cart success  The actor is notified of the successful deletion.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login and go to cart | System show notification login success and in cart display the current content of cart | | Actor select a product and click “x” action | System show notification delete success and product is remove |   **Alternative Scenario:**  N/A  **Exceptions:**  If there is an error deleting products in cart, the system displays an error message and prompts the actor to try again later.  **Relationships:**  UC-01  **Business Rules:**  Actor must be logged in to update the cart. | | | | |

## Payment

| **USE CASE-20 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC20 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Payment | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Customer.  **Summary:**  This feature allows actors to make payments for the products in their cart during the checkout process.  **Goal:**  To enable customers to securely complete payment for their purchases.  **Triggers**  Actor clicks the "Payment" button on the Order page.  **Preconditions:**  The actor must be logged in to the system.  The actor must have a non-empty cart.  The actor must have entered valid shipping information.  The payment system must be operational.  **Post Conditions:**  The payment is processed successfully.  The actor receives a payment confirmation.  The order have status “Đã thanh toán” in the Order page.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login. | System show notification login successful. | | Actor proceeds to checkout from the cart page. | System displays the check out page. | | Actor reviews the order summary and click to “Pay”. | System navigate to VNPay payment and process the progress. | |  | System updates the order status to “Đã thanh toán”. | |  | System display notification success payment and order create successful |   **Alternative Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor want to cancel the payment by click on “Hủy thanh toán” in VNPay. | Order status change to “Hủy thanh toán”. |   **Exceptions:**  If the payment is declined, the system displays an error message and prompts the actor to enter a different payment method.  **Relationships:**  UC-01  **Business Rules:**  Actor must be logged in to update the cart.  System must ensure that the cart is cleared only after actor confirmation. | | | | |

## Delete Order

| **USE CASE-21 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC21 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Delete Order | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Customer.  **Summary:**  This feature allows actors to delete an order from their order history.  **Goal:**  To provide actors with the ability to remove an order from their records.  **Triggers**  Actor clicks the "Delete" button on the order history page.  **Preconditions:**  The actor must be logged in to the system.  The actor must have at least one order in their history.  The order must not be in a state that prevents deletion (“Đã thanh toán”, “Đang giao hàng”).  **Post Conditions:**  The order is removed from the actor's order history.  The actor is notified of the successful deletion.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login. | System show notification login successful. | | Actor navigates to the order history page. | System displays the actor's order history. | | Actor selects an order to delete and clicks the "Delete" button. | System prompts the actor to confirm the deletion. | | Actor confirms the deletion action. | System deletes the order from the actor's order history. | |  | System displays a confirmation message. |   **Alternative Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor tries to delete an order that is paid or delivered. | System displays an error message indicating the order cannot be deleted. |   **Exceptions:**  If there is an error deleting the order, the system displays an error message and prompts the actor to try again later.  **Relationships:**  UC-18  **Business Rules:**  Actor must be logged in to delete an order.  Orders that have been paid or delivered cannot be deleted.  System must ensure that the order is deleted only after actor confirmation. | | | | |

## View Order Detail

| **USE CASE-22 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC22 | **Use-case Version** | | 1.0 |
| **Use-case Name** | View Order Detail | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Customer.  **Summary:**  This feature allows actors to view the detailed information of a specific order from their order history.  **Goal:**  To provide actors with comprehensive details about their past orders.  **Triggers**  Actor clicks the "View" button on the order history page.  **Preconditions:**  The actor must be logged in to the system.  The actor must have at least one order in their history.  The order must in a status “Đã thanh toán”, “Đang giao hàng”.  **Post Conditions:**  The detailed information of the selected order is displayed to the actor.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login. | System show notification login successful. | | Actor navigates to the order history page. | System displays the actor's order history. | | Actor selects an order and clicks the "View" button. | System displays the detailed information of the selected order, including:   * Account information * Order information * Product information * Total amount information * Certificate(only Diamond) and Warranty information. * Total order information |   **Alternative Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor tries to view an order is not status “Đã thanh toán” or “Đang giao hàng” | System displays an notification and actor need to follow it |   **Exceptions:**  If there is an error retrieving the order details, the system displays an error message and prompts the actor to try again later.  **Relationships:**  UC-18  UC-20  **Business Rules:**  Actor must be logged in to delete an order.  Orders must have been paid or delivered  System must ensure that information of order is exactly | | | | |

## Edit Warranty Paper

| **USE CASE-23 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC23 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Edit Warranty Paper | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Manager  **Summary:**  This feature allows managers to edit the details of warranty papers for products.  **Goal:**  To enable managers to update warranty information to ensure accuracy and completeness.  **Triggers**  Actor selects a warranty and clicks the Edit Icon in the manager warranty page  **Preconditions:**  Actor must be logged in to the system with appropriate permissions.  There must be existing warranty papers in the system.  **Post Conditions:**  The warranty paper is updated with the new details.  The manager is notified of the successful update.  The updated warranty information is saved in the system.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login. | System show notification login successful. | | Actor click on “Giây bảo hành kim cương” or “Giấy bảo hành trang sức”. | System displays the list of existing warranty papers. | | Actor selects a warranty and click Edit icon | System displays the detailed information of the selected order, including:  + “Giấy bảo hành kim cương”:   - “ID kim cương”   * “Ngày và thời gian hết hạn” * “Hình ảnh”   + “Giấy bảo hành trang sức”:   - “ID trang sức”   * “Ngày và thời gian hết hạn” * “Hình ảnh” | | Actor enter “Cập nhật trang sức” | System display notification update success and saves the updated information in the database. |   **Alternative Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor decide to cancel update warranty | System retains the original details of the warranty paper. |   **Exceptions:**  If the entered details are invalid (e.g., incorrect dates), the system displays an error message and prompts the manager to correct the details.  If there is an error updating the warranty paper, the system displays an error message and prompts the manager to try again later.  **Relationships:**  UC-18  UC-20  **Business Rules:**  Manager must be logged in with appropriate permissions to edit warranty papers.  System must ensure that the updated details are validated before saving. | | | | |

## Add Warranty Paper

| **USE CASE-24 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC24 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Add Warranty Paper | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Manager  **Summary:**  This feature allows managers to add a new warranty papers for products.  **Goal:**  To enable managers to generate and issue warranty documents for new or existing products.  **Triggers**  Manager clicks the "ADD" button on the warranty management page.  **Preconditions:**  The manager must be logged in to the system with appropriate permissions.  There must be products available in the system for which warranty papers can be created.  **Post Conditions:**  A new warranty paper is created and saved in the system.  The manager is notified of the successful creation.  The warranty information is associated with the specified product.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login. | System show notification login successful. | | Actor click on “Giây bảo hành kim cương” or “Giấy bảo hành trang sức”. | System displays the list of existing warranty papers. | | Actor click on “ADD” button. | System displays the detailed information of a warranty need, including:  + “Giấy bảo hành kim cương”:   - “ID giấy bảo hành”   * “ID kim cương” * “Ngày và thời gian hết hạn” * “Hình ảnh”   + “Giấy bảo hành trang sức”:   - “ID giấy bảo hành”   * “ID trang sức” * “Ngày và thời gian hết hạn” * “Hình ảnh” | | Actor enter “Thêm bảo hành”. | System display notification add success and saves the new warranty to database |   **Alternative Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor decide to cancel add process. | System discards the entered details and returns to the warranty management page. |   **Exceptions:**  If the entered details are invalid (e.g., incorrect dates), the system displays an error message and prompts the manager to correct the details.  If there is an error creating the warranty paper, the system displays an error message and prompts the manager to try again later.  **Relationships:**  UC-18  UC-20  **Business Rules:**  Manager must be logged in with appropriate permissions to add warranty papers.  System must ensure that the added details are validated before saving. | | | | |

## Delete Warranty Paper

| **USE CASE-25 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC25 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Delete Warranty Paper | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Manager  **Summary:**  This feature allows managers to delete existing warranty papers for products.  **Goal:**  To enable managers to remove outdated or incorrect warranty documents from the system.  **Triggers**  Actor selects one or more warranty papers and clicks on the delete icon that appears  **Preconditions:**  The manager must be logged in to the system with appropriate permissions.  There must be existing warranty papers in the system.  **Post Conditions:**  The warranty paper is removed from the system.  The manager is notified of the successful deletion.  The product's record is updated to reflect the removal of the warranty paper.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login. | System show notification login successful. | | Actor click on “Giây bảo hành kim cương” or “Giấy bảo hành trang sức”. | System displays the list of existing warranty papers. | | The manager selects one or more warranty papers and clicks on the delete icon that appears. | System prompts the manager to confirm the deletion. | | Manager confirms the deletion action. | System deletes one or all the selected warranty paper. | |  | System updates the product record to reflect the removal of the warranty paper. | | System displays a confirmation message. | System retains the warranty paper in the system. |   **Alternative Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor decide to cancel delete process. | System discards the entered details and returns to the warranty management page. |   **Exceptions:**  If the entered details are invalid (e.g., incorrect dates), the system displays an error message and prompts the manager to correct the details.  If there is an error creating the warranty paper, the system displays an error message and prompts the manager to try again later.  **Relationships:**  N/A  **Business Rules:**  Manager must be logged in with appropriate permissions to delete warranty papers.  System must ensure that the warranty paper is deleted only after manager confirmation.  Warranty paper information must be accurately removed from the product's record. | | | | |

## View Warranty Papers

| **USE CASE-26 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC26 | **Use-case Version** | | 1.0 |
| **Use-case Name** | View Warranty Paper | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager, Admin.  **Summary:**  This feature allows actors to view the details of warranty papers associated with products.  **Goal:**  To provide actors with detailed information about the warranties for products.  **Triggers**  Actor go to “Giấy bảo hành kim cương” or “Giấy bảo hành trang sức”  **Preconditions:**  The manager must be logged in to the system with appropriate permissions.  There must be existing warranty papers in the system.  **Post Conditions:**  All warranty in system are displayed to the actor  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login. | System show notification login successful. | | Actor click on “Giây bảo hành kim cương” or “Giấy bảo hành trang sức”. | System displays the list of existing warranty papers, include information:  + “Giấy bảo hành kim cương”:   - “ID giấy bảo hành”   * “ID kim cương” * “Ngày và thời gian hết hạn” * “Hình ảnh” * “Trạng thái”   + “Giấy bảo hành trang sức”:   - “ID giấy bảo hành”   * “ID trang sức” * “Ngày và thời gian hết hạn” * “Hình ảnh” * “Trạng thái” |   **Alternative Scenario:**  N/A  **Exceptions:**  If there is an error retrieving the warranty paper details, the system displays an error message and prompts the actor to try again later.  **Relationships:**  N/A  **Business Rules:**  Actor must be logged in to view warranty papers.  System must ensure that the warranty paper details are accurate and up-to-date.  Sensitive information must be handled securely. | | | | |

## View Certificate

| **USE CASE-27 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC27 | **Use-case Version** | | 1.0 |
| **Use-case Name** | View Certificate Paper | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager, Admin.  **Summary:**  This feature allows actors to view the details of certificate papers associated with products.  **Goal:**  To provide actors with detailed information about the certificates for products.  **Triggers**  Actor go to “Chứng chỉ kim cương”  **Preconditions:**  The actor must be logged in to the system with appropriate permissions.  There must be existing certificate papers in the system.  **Post Conditions:**  All certificates in system are displayed to the actor  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login. | System show notification login successful. | | Actor click on “Chứng chỉ kim cương” | System displays the list of existing certificates papers, include information:   - “ID giấy chứng chỉ”   * “ID kim cương” * “Ngày và thời gian hết hạn” * “Hình ảnh” * “Trạng thái” |   **Alternative Scenario:**  N/A  **Exceptions:**  If there is an error retrieving the certificate paper details, the system displays an error message and prompts the actor to try again later.  **Relationships:**  N/A  **Business Rules:**  Actors must be logged in to view warranty papers.  System must ensure that the certificate paper details are accurate and up-to-date.  Sensitive information must be handled securely. | | | | |

## Add Certificate Paper

| **USE CASE-28 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC28 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Add Certificate Paper | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Manager  **Summary:**  This feature allows managers to add new certificate papers for diamond.  **Goal:**  To enable managers to generate and issue certificate documents for new or existing diamond.  **Triggers**  Manager clicks the "ADD" button on the warranty management page.  **Preconditions:**  The manager must be logged in to the system with appropriate permissions.  There must be products available in the system for which warranty papers can be created.  **Post Conditions:**  A new warranty paper is created and saved in the system.  The manager is notified of the successful creation.  The warranty information is associated with the specified product.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login. | System show notification login successful. | | Actor click on “Chứng chỉ kim cương” | System displays the list of existing certificate papers. | | Actor click on “ADD” button. | System displays the detailed information of a warranty need, including:  - “ID chứng chỉ”   * “ID kim cương” * “Ngày và thời gian hết hạn” * “Hình ảnh” | | Actor enter “Thêm chứng chỉ”. | System display notification add success and saves the new certificate to database |   **Alternative Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor decide to cancel add process. | System discards the entered details and returns to the certificate management page. |   **Exceptions:**  If the entered details are invalid (e.g., incorrect dates), the system displays an error message and prompts the manager to correct the details.  If there is an error adding the warranty paper, the system displays an error message and prompts the manager to try again later.  **Relationships:**  UC-26  **Business Rules:**  Manager must be logged in with appropriate permissions to add warranty papers.  System must ensure that the added details are validated before saving. | | | | |

## Edit Certificate Paper

| **USE CASE-29 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC29 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Edit Certificate Paper | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Manager  **Summary:**  This feature allows managers to edit the details of certificate papers for products.  **Goal:**  To enable managers to update certificate information to ensure accuracy and completeness.  **Triggers**  Actor selects a warranty and clicks the Edit Icon in the manager certificate page  **Preconditions:**  Actor must be logged in to the system with appropriate permissions.  There must be existing certificate papers in the system.  **Post Conditions:**  The certificate paper is updated with the new details.  The certificate is notified of the successful update.  The updated certificate information is saved in the system.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login. | System show notification login successful. | | Actor click on “Chứng chỉ kim cương” | System displays the list of existing certificate papers. | | Actor selects a certificate and click Edit icon | System displays the detailed information of a warranty need, including:  - “ID chứng chỉ”   * “ID kim cương” * “Ngày và thời gian hết hạn” * “Hình ảnh” | | Actor enter “Cập nhật chứng chỉ” | System display notification update success and saves the updated information in the database. |   **Alternative Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor decide to cancel edit certificate | System retains the original details of the certificate paper. |   **Exceptions:**  If the entered details are invalid (e.g., incorrect dates), the system displays an error message and prompts the manager to correct the details.  If there is an error editing the certificate paper, the system displays an error message and prompts the manager to try again later.  **Relationships:**  UC-18  UC-20  **Business Rules:**  Manager must be logged in with appropriate permissions to edit certificate papers.  System must ensure that the updated details are validated before saving. | | | | |

## Delete certificate paper

| **USE CASE-30 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC30 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Delete Certificate Paper | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Manager  **Summary:**  This feature allows managers to delete existing certificate papers for diamond.  **Goal:**  To enable managers to remove outdated or incorrect certificate documents from the system.  **Triggers**  Actor selects one or more certificate papers and clicks on the delete icon that appears  **Preconditions:**  The manager must be logged in to the system with appropriate permissions.  There must be existing certificate papers in the system.  **Post Conditions:**  The certificate paper is removed from the system.  The manager is notified of the successful deletion.  The product's record is updated to reflect the removal of the certificate paper.  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login. | System show notification login successful. | | Actor click on “Chứng chỉ kim cương”. | System displays the list of existing certificate papers. | | The manager selects one or more certificate papers and clicks on the delete icon that appears. | System prompts the manager to confirm the deletion. | | Manager confirms the deletion action. | System deletes one or all the selected certificate papers. | |  | System updates the product record to reflect the removal of the certificate paper. | | System displays a confirmation message. | System retains the certificate paper in the system. |   **Alternative Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor decide to cancel delete process. | System discards the entered details and returns to the certificate management page. |   **Exceptions:**  If the entered details are invalid (e.g., incorrect dates), the system displays an error message and prompts the manager to correct the details.  If there is an error creating the warranty paper, the system displays an error message and prompts the manager to try again later.  **Relationships:**  N/A  **Business Rules:**  Manager must be logged in with appropriate permissions to delete certificate papers.  System must ensure that the certificate paper is deleted only after manager confirmation.  Warranty paper information must be accurately removed from the diamond record. | | | | |

## View Promotions

| **USE CASE-30 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC030 | **Use-case Version** | | 1.0 |
| **Use-case Name** | View Promotions | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager views current promotions within the system. The manager can see details of ongoing promotional offers and may also access additional information such as promotion performance metrics.  **Goal:**  To allow managers to view and monitor current promotional offers.  **Triggers**  The manager decides to view available promotions and navigates to the promotions management page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  Actor is redirected to “Mã giảm giá” Page in Admin dashboard.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Manager navigates to the “Mã giảm giá” page. | The system show out account detail form with:   * Tên tài khoản * Email * Địa chỉ * Số điện thoại * Role * Password |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## Create Promotion Code

| **USE CASE-31 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC031 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Create Promotion Code | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager creates a new promotion code within the system. The manager can define the details of the promotion such as the code, description, validity period, and terms.  **Goal:**  To allow managers to create and manage promotion codes to attract and retain customers.  **Triggers**  The manager decides to create a new promotion code and navigates to the promotion creation page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  Actor is redirected to “Tạo mã giảm giá” Page in Admin dashboard.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Manager clicks on “Quản lý” button on Vertical Navigation. After that, actor clicks on “Mã giảm giá” in drop down of “Quản lí” | The system redirect to “Mã giảm giá” page. | | Manager clicks on “Add” in “Mã giảm giá” page. | The system shows out the pop up “Thêm mã giảm giá” form:   * Promotion Code * Start Date * Start Time * End Date * End Time * Discount Amount * Description | | Manager fills in the promotion details. | The system validates the input data. | | Manager clicks the “Tạo Mã Giảm Giá” button. | The system creates the new promotion code in the database. |   **Alternative Scenario:**  N/A  **Exceptions:**  Promotion code already exists.  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## Edit Promotion Code

| **USE CASE-32 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC032 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Edit Promotion Code | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager edits an existing promotion code within the system. The manager can update details such as the code, description, validity period, and terms.  **Goal:**  To allow managers to update the details of existing promotion codes to reflect changes or correct errors.  **Triggers**  The manager decides to edit an existing promotion code and navigates to the promotion management page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the updated promotion details.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Manager clicks on “Quản lý” button on Vertical Navigation. After that, actor clicks on “Mã giảm giá” in drop down of “Quản lí” | The system redirect to “Mã giảm giá” page. | | Manager clicks on “Cập nhật thông tin” in “Action” column of “Mã giảm giá” page. | The system shows out the pop up “Chỉnh sửa mã giảm giá” form:   * Promotion Code * Start Date * Start Time * End Date * End Time * Discount Amount * Description | | Manager updates the desired promotion fields. | The system validates the input data. | |  | The system displays a confirmation message “Cập nhật thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  Promotion code already exists.  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## Delete Promotion Code

| **USE CASE-33 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC033 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Delete Promotion Code | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager deletes an existing promotion code within the system. The manager can remove promotion codes that are no longer valid or needed.  **Goal:**  To allow managers to delete promotion codes that are outdated or no longer applicable.  **Triggers**  The manager decides to delete an existing promotion code and navigates to the promotion management page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the updated list of available promotions.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Manager clicks on “Quản lý” button on Vertical Navigation. After that, actor clicks on “Mã giảm giá” in drop down of “Quản lí” | The system redirect to “Mã giảm giá” page. | | Manager clicks on “Xóa” in “Action” column of “Mã giảm giá” page. | The system shows out the pop up “Bạn có chắc chắn XÓA promotion này? | | Manager confirms the deletion. | The system deletes the promotion code from the database. | |  | The system displays a confirmation message “Xóa thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  Promotion code already exists.  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## Add Diamond

| **USE CASE-34 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC034 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Add Diamond | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager adds a new diamond to the inventory within the system. The manager can define the details of the diamond such as the carat, cut, color, clarity, and price.  **Goal:**  To allow managers to add new diamonds to the inventory, making them available for customers to view and purchase.  **Triggers**  The manager decides to add a new diamond and navigates to the diamond management page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the new diamond in the list of available diamonds.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor click on "Quản lý," then select "Sản phẩm" and choose "Kim cương". Then actor clicks on “Kim cương” in drop down of “Kim cương”. | The system redirect to “Quản lý kim cương” page. | | Manager clicks on “Add” in “Quản lý kim cương” page. | The system shows out the pop up “Thêm kim cương” form:   * DiamondID * WarrantyID * CertificationID * DiamondName * DiamondImage * DiamondEntryPrice * Carat weight * Carat size * Color * Cut * Clarity * Shape * Origin | | Manager fills in the diamond details. | The system validates the input data.. | |  | The system displays a confirmation message “Tạo thành công”. |   **Alternative Scenario:**  N/A  **Exceptions:**  “Kim cương” already exists.  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  DiamondID has the format KCV-xxx.  WarrantyID has the format WID-xxx.  CertificationID has the format CID-xxx. | | | | |

## Add Jewelry

| **USE CASE-35 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC035 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Add Jewelry | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager adds a new jewelry item to the inventory within the system. The manager can define the details of the jewelry item such as the name, description, type, material, price, and stock availability.  **Goal:**  To allow managers to add new jewelry items to the inventory, making them available for customers to view and purchase.  **Triggers**  The manager decides to add a new jewelry item and navigates to the jewelry management page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the new jewelry item in the list of available jewelry.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor click on "Quản lý," then select "Sản phẩm" and choose "Trang sức". Then actor clicks on “Trang sức” in drop down of “Trang sức”. | The system redirect to “Quản lý trang sức” page. | | Manager clicks on “Add” in “Quản lý trang sức” page. | The system shows out the pop up “Thêm kim cương” form:   * JewelryID * JewelryName * JewelryImage * JewelryEntryPrice * Gender | | Manager fills in the jewlry details. | The system validates the input data.. | |  | The system displays a confirmation message “Tạo thành công”. |   **Alternative Scenario:**  N/A  **Exceptions:**  “Trang sức” already exists.  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  JewelryID has the format JID-xxx. | | | | |

## Delete Diamond

| **USE CASE-36 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC036 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Delete Diamond | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager deletes an existing diamond from the inventory within the system. The manager can remove diamonds that are no longer available or needed.  **Goal:**  To allow managers to delete diamonds that are outdated or no longer available.  **Triggers**  The manager decides to delete an existing diamond and navigates to the diamond management page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the updated list of available diamonds.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor click on "Quản lý," then select "Sản phẩm" and choose "Kim cương". Then actor clicks on “Kim cương” in drop down of “Kim cương”. | The system redirect to “Quản lý Kim cương” page. | | Manager clicks on a check box of diamond what actor wants to delete | The system shows out the pop up “Bạn có muốn XÓA các kim cương này? | | Manager confirms the deletion. | The system deletes the diamond from the database. | |  | The system displays a confirmation message “Xóa thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## Delete Jewelry

| **USE CASE-37 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC037 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Delete Jewelry | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager deletes an existing jewelry item from the inventory within the system. The manager can remove jewelry items that are no longer available or needed.  **Goal:**  To allow managers to delete jewelry items that are outdated or no longer available.  **Triggers**  The manager decides to delete an existing jewelry item and navigates to the jewelry management page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the updated list of available jewelry.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor click on "Quản lý," then select "Sản phẩm" and choose "Trang sức". Then actor clicks on “Trang sức” in drop down of “Kim cương”. | The system redirect to “Quản lý Kim cương” page. | | Manager clicks on a check box of jewelry what actor wants to delete. And select “xóa các kim cương đã chọn” | The system shows out the pop up “Bạn có muốn XÓA các trang sức này? | | Manager confirms the deletion. | The system deletes the jewelry from the database. | |  | The system displays a confirmation message “Xóa thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## Edit Diamond

| **USE CASE-38 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC038 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Edit Diamond | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager edits the details of an existing diamond item in the inventory within the system.  **Goal:**  To allow managers to update the details of diamond items to keep the inventory accurate and up-to-date.  **Triggers**  The manager decides to edit the details of an existing diamond item and navigates to the “Quản lý kim cương” page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the updated list of available diamonds.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Manager clicks on “Cập nhật thông tin” in “Action” column. | The system shows out the pop up “Chỉnh sửa kim cương” form:   * WarrantyID * CertificationID * DiamondName * DiamondImage * DiamondEntryPrice * Carat weight * Carat size * Color * Cut * Clarity * Shape * Origin | | Manager updates the desired diamond fields. | The system validates the input data. | |  | The system displays a confirmation message “Cập nhật thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## Edit Jewelry

| **USE CASE-39 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC039 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Edit Jewelry | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager edits the details of an existing jewelry item in the inventory within the system.  **Goal:**  To allow managers to update the details of jewelry items to keep the inventory accurate and up-to-date.  **Triggers**  The manager decides to edit the details of an existing jewelry item and navigates to the “Quản lý trang sức” page..  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the updated list of available jewelry.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Manager clicks on “Cập nhật thông tin” in “Action” column. | The system shows out the pop up “Chỉnh sửa trang sức” form:   * JewelryName * JewelryImage * JewelryEntryPrice * Gender | | Manager updates the desired jewelry fields. | The system validates the input data. | |  | The system displays a confirmation message “Cập nhật thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## Create Diamond Price List

| **USE CASE-40 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC040 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Create Diamond Price List | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager creates a price list for diamonds within the system. The manager can define and update the prices for different types of diamonds based on various attributes such as carat size, color, and clarity.  **Goal:**  To allow managers to create and maintain an accurate and up-to-date price list for diamonds.  **Triggers**  The manager decides to create or update the diamond's price list and navigates to the “Giá kim cương” page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the new diamond’s price list in the screen.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor click on "Quản lý," then select "Sản phẩm" and choose "Kim cương". Then actor clicks on “Giá kim cương” in drop down of “Kim cương”. | The system redirect to “Giá kim cương” page. | | Manager clicks on “Add” in “Giá kim cương” page. | The system shows out the pop up “Thêm kim cương” form:   * DiamondID * Diamond Price * Carat size * Color * Clarity | | Manager fills in the diamond’s price list details. | The system validates the input data.. | |  | The system displays a confirmation message “Tạo thành công”. |   **Alternative Scenario:**  N/A  **Exceptions:**  DiamondID is incorrect.  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  DiamondID has the format KCV-xxx. | | | | |

## Create Jewelry Price List

| **USE CASE-40 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC040 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Create Jewelry Price List | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager creates a price list for jewelry within the system.  **Goal:**  To allow managers to create and maintain an accurate and up-to-date price list for jewelry.  **Triggers**  The manager decides to create or update the jewelry’s price list and navigates to the “Giá vàng” page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the new jewelry’s price list in the screen.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor click on "Quản lý," then select "Sản phẩm" and choose "Trang sức". Then actor clicks on “Giá vàng” in drop down of “Trang sức”. | The system redirect to “Giá vàng” page. | | Manager clicks on “Add” in “Giá vàng” page. | The system shows out the pop up “Thêm kim cương” form:   * jewelryID * goldPrice * goldAge | | Manager fills in the jewelry’s price list details. | The system validates the input data.. | |  | The system displays a confirmation message “Tạo thành công”. |   **Alternative Scenario:**  N/A  **Exceptions:**  JewelryID is incorrect.  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  JewelryID has the format JID-xxx. | | | | |

## Edit Diamond Price List

| **USE CASE-42 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC042 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Edit Diamond Price List | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager edits the price list for diamonds within the system.  **Goal:**  To allow managers to update and maintain an accurate and up-to-date price list for diamonds.  **Triggers**  TThe manager decides to edit the diamond's price list and navigates to the “Giá kim cương” page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the new diamond’s price list in the screen.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Manager clicks on “Cập nhật thông tin” in “Action” column in “Giá kim cương” page. | The system shows out the pop up “Chỉnh sửa giá kim cương” form:   * DiamondID * Diamond Price * Carat size * Color * Clarity | | Manager updates the desired diamond’s price fields. | The system validates the input data. | |  | The system displays a confirmation message “Cập nhật thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  DiamondID has the format KCV-xxx. | | | | |

## Edit Jewelry Price List

| **USE CASE-43 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC043 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Edit Jewelry Price List | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager edits the price list for jewelry within the system.  **Goal:**  To allow managers to update and maintain an accurate and up-to-date price list for jewelry.  **Triggers**  TThe manager decides to edit the jewelry’s price list and navigates to the “Giá vàng” page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the new jewelry’s price list in the screen.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Manager clicks on “Cập nhật thông tin” in “Action” column in “Giá vàng” page. | The system shows out the pop up “Chỉnh sửa giá kim cương” form:   * jewelryID * goldPrice * goldAge | | Manager updates the desired jewelry’s price fields. | The system validates the input data. | |  | The system displays a confirmation message “Cập nhật thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  JewelryID has the format JID-xxx. | | | | |

## Delete Diamond Price List

| **USE CASE-44 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC037 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Delete Diamond Price List | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager deletes an existing price list for diamonds within the system. The manager can remove outdated or no longer needed price lists.  **Goal:**  To allow managers to delete diamond price lists that are no longer relevant or accurate.  **Triggers**  The manager decides to delete an existing diamond price list and navigates to the “Giá kim cương” page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the removal of the price list.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Manager clicks on a check box of diamond’s price what actor wants to delete. And select “xóa các giá kim cương đã chọn” | The system shows out the pop up “Bạn có muốn XÓA các giá kim cương này? | | Manager confirms the deletion. | The system deletes the diamond’s price from the database. | |  | The system displays a confirmation message “Xóa thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## Delete Jewelry Price List

| **USE CASE-44 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC037 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Delete Diamond Price List | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager.  **Summary:**  This use case describes the process by which a manager deletes an existing price list for jewelry within the system. The manager can remove outdated or no longer needed price lists.  **Goal:**  To allow managers to delete jewelry price lists that are no longer relevant or accurate.  **Triggers**  The manager decides to delete an existing diamond price list and navigates to the “Giá vàng” page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The system reflects the removal of the price list.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Manager clicks on a check box of jewelry’s price what actor wants to delete. And select “xóa các giá trang sức đã chọn” | The system shows out the pop up “Bạn có muốn XÓA các giá trang sức này? | | Manager confirms the deletion. | The system deletes the jewelry’s price from the database. | |  | The system displays a confirmation message “Xóa thành công.” |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## View Diamond Price List

| **USE CASE-46 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC046 | **Use-case Version** | | 1.0 |
| **Use-case Name** | View Diamond Price List | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager, Admin.  **Summary:**  This use case describes the process by which a manager views the existing price lists for diamonds within the system. The manager can access and review the details of diamond price lists to understand current pricing information.  **Goal:**  To allow managers to view and analyze diamond price lists to make informed decisions related to pricing and inventory management.  **Triggers**  The manager decides to view the diamond price lists and navigates to the diamond pricing management page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The manager successfully views the diamond price lists and their details.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor navigates to the “Giá kim cương” page. | The system displays a list of current diamond’s price lists. |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## View Jewelry Price List

| **USE CASE-47 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC047 | **Use-case Version** | | 1.0 |
| **Use-case Name** | View Diamond Price List | | | |
| **Author** | <Members> | | | |
| **Date** | 30/06/2024 | **Priority** | Normal | |
| **Actor:**  Manager, Admin.  **Summary:**  This use case describes the process by which a manager views the existing price lists for jewelry within the system. The manager can access and review the details of jewelry price lists to understand current pricing information.  **Goal:**  To allow managers to view and analyze jewelry price lists to make informed decisions related to pricing and inventory management.  **Triggers**  The manager decides to view the jewelry price lists and navigates to the “Giá vàng” page.  **Preconditions:**  The actor must be logged into the system.  **Post Conditions:**  The manager successfully views the jewelry price lists and their details.  **Main Success Scenario:**   | **Actor action** | **System Response** | | --- | --- | | Actor navigates to the “Giá vàng” page. | The system displays a list of current diamond’s price lists. |   **Alternative Scenario:**  N/A  **Exceptions:**  N/A  **Relationships:**  This use case is related to “Login” (UC-001).  **Business Rules:**  N/A | | | | |

## Update Address And Phone Number In Checkout

| **USE CASE-40 SPECIFICATION** | | | | |
| --- | --- | --- | --- | --- |
| **Use-case No.** | UC40 | **Use-case Version** | | 1.0 |
| **Use-case Name** | Update Address And Phone Number In Checkout | | | |
| **Author** |  | | | |
| **Date** | 30/06/2024 | **Priority** | High | |
| **Actor:**  Customer  **Summary:**  This feature allows customers to update their delivery address and phone number during the checkout process if they already have an address and phone number in their profile.  **Goal:**  To enable customer to change they delivery address.  **Triggers**  The system automatically enters the address and phone number of the logged-in customer if two that information provided in customer profile by themself. The customer now wants to change it during checkout.  **Preconditions:**  Actor must be logged in to the system with appropriate permissions.  Actor has an existing address and phone number in their profile.  **Post Conditions:**  Successfully changed address and phone number in checkout.  Address and phone number in customer profile remain unchanged  **Main Success Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor login. | System show notification login successful. | | Actor do shopping, add to cart and “Tiến hành tạo đơn hàng” | System prompts the actor with the current delivery address and phone number fetched from their profile. | | Actor clear address and phone number and add a new one if necessary |  | | Actor check all information and click “Đặt hàng” | System save address and phone number in Order |   **Alternative Scenario:**     | **Actor action** | **System Response** | | --- | --- | | Actor decides not to update the address and phone number during checkout | System proceeds with the existing address and phone number stored in the profile for the current order. |   **Exceptions:**  If there is an error updating the address or phone number due to system issues, the system displays an error message and advises the actor to try again later.  **Relationships:**  UC-18  **Business Rules:**  The actor must be logged in with appropriate permissions to update address and phone number during checkout.  System validation ensures that updated details are accurate before finalizing the order. | | | | |

# NON-FUNCTIONAL Requirements

## Usability

**US-01:** The system will provide an easy-to-understand and user-friendly interface, helping users to operate easily even without deep technical knowledge.

**US-02:** The system will provide immediate feedback to user actions, such as order confirmations, error messages, or information updates.

## Reliability

**REL-01:** The system will ensure a minimum uptime of 99.9% to maintain service availability.

**REL-02:** All features will be thoroughly tested before deployment to minimize errors during use.

## Performance

**PER-01:** System pages should load within 3 seconds on average Internet connections.

**PER-02:** Database queries must be optimized to ensure fast retrieval times and minimize load on the server.

## Supportability

**SUP-01:** Technical support will be provided via email, phone and ticketing system, with response time within 24 hours.

**SUP-02:** The system will integrate monitoring tools to detect errors and report problems promptly, supporting continuous maintenance and improvement.

## Design Constraints

**DC-01:** The system must follow MVC (Model-View-Controller) architecture to ensure scalability and maintainability.

**DC-02:** The system must be compatible with popular web browsers such as Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge.

## On-line User Documentation and Help System Requirements

**OU-01:** The system will come with detailed user documentation, including step-by-step instructions on how to use the system's functions.

**HS-01:** The help system will include a search feature to make it easier for users to find needed information.scalability and maintainability.

**HS-02:** When errors occur, the system provides clear and easy-to-understand error messages, along with suggested remediation steps.

## Purchased Components

**PC-01:** Use services like VNPay to process online payments securely and reliably.

**PC-01:** Use React.js library and UI components from Material-UI to develop modern and interactive user interfaces.

## Interfaces

### *User Interfaces*

**UCI-01:** The system must have a flexible interface to ensure simple and easy usability for users.

**UCI-02:** The structure and layout of the interface must adapt itself to the device's screen size.

### *Hardware Interfaces*

**HI-01:** Use a multi-core Intel or AMD CPU with a minimum of 8GB of RAM and 100GB of disk space.

**HI-02:** Supports Ethernet or WiFi network interface for internet connection.

### *Software Interfaces*

**SI-01:** RESTful API - Communication between frontend and backend via predefined endpoints to perform CRUD operations.

**SI-02:** VNPay API - Integration for payment processing.

### *Communications Interfaces*

**CI-01:** The system will operate over the internet, using the HTTP/HTTPS protocol to communicate.

**CI-02:** Default port: 80 for HTTP and 443 for HTTPS.

## Licensing Requirements

**LR-01:** The software must comply with licensing requirements for all components used, including third-party libraries and tools.

**LR-02:** End users need to accept the terms and conditions of software use before installing and using the system.

**LR-03:** The software will have security measures to prevent unauthorized use, including checking the number of users and time of use.

## Legal, Copyright, and Other Notices

**LCO-01:** All rights, including the right to copy, distribute and edit, are reserved. No part of this software may be copied, distributed or modified without the written permission of the owner.

**LCO-02:** All logos, trademarks and service marks used in this software are the property of their respective owners. Using any logo or trademark without the owner's permission is against the law.

## Applicable Standards

**AS-01:** User interfaces should follow user interface (UI) design guidelines such as Material Design or Apple Human Interface Guidelines to ensure consistency and ease of use.

**AS-02:** Software must comply with industry standards for interoperability and system integration, such as RESTful APIs and JSON for data transfer.

# Supporting Information