Jewelry Sales System At The Store

Software Requirement Specification

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# Introduction

## Purpose

The purpose of this Software Requirement Specification (SRS) document is to provide a detailed description of the Jewelry Sales System (JSS) to be implemented for retail jewelry stores. This document outlines the functional and non-functional requirements, system architecture, and design considerations essential for the development and deployment of the JSS. The system aims to enhance sales management, inventory tracking, customer relationship management, and reporting capabilities, thereby optimizing the overall operations and customer experience in jewelry stores.

## Scope

The Jewelry Sales System will be a comprehensive solution designed to address the specific needs of jewelry retailers. It will manage various aspects of the business, including:

* Sales Transactions: Facilitating the process of selling jewelry items to customers, including billing, invoicing, and payment processing.
* Inventory Management: Tracking and managing stock levels, product details, and supplier information to ensure accurate and efficient inventory control.
* Customer Management: Storing customer information, purchase history, and preferences to improve service quality and support targeted marketing efforts.
* Reporting and Analytics: Generating detailed reports and analytics on sales performance, inventory status, and customer behavior to inform business decisions.

## References

* IEEE Std 830-1998: IEEE Recommended Practice for Software Requirements Specifications.
* Business Requirements Document for Jewelry Sales System.
* User Feedback and Survey Reports from Jewelry Store Employees and Customers.

## Overview

This document is structured to provide a clear and comprehensive guide to the development of the Jewelry Sales System. The subsequent sections will cover:

* Overall Description: An overview of the system context, user characteristics, and constraints.
* Specific Requirements: Detailed functional and non-functional requirements, user interfaces, and system interfaces.
* System Features: A breakdown of the primary features and functionalities of the JSS.
* External Interface Requirements: Descriptions of how the system will interact with other systems and hardware.
* Other Non-functional Requirements: Performance, security, and usability requirements that the system must meet.

# Overall Description

## Staff Needs

**Customer Service:** Easy access to customer information is needed to resolve customer inquiries quickly.

**Inventory Access:** The ability to check inventory levels and product details helps staff provide accurate information to customers and manage stock effectively.

## Admin Needs

**Discount and Policy Management:** The admin requires the ability to create, update, delete, and manage discounts and return policies.

**Staff Session Management:** The admin requires the ability to create, update, delete, and manage staff sessions at counters.

## Manager Needs

**Staff Management:** The ability to manage staff accounts, including creating, updating, viewing, and deleting accounts, is critical to ensure that staff information is up-to-date and access permissions are appropriately assigned.

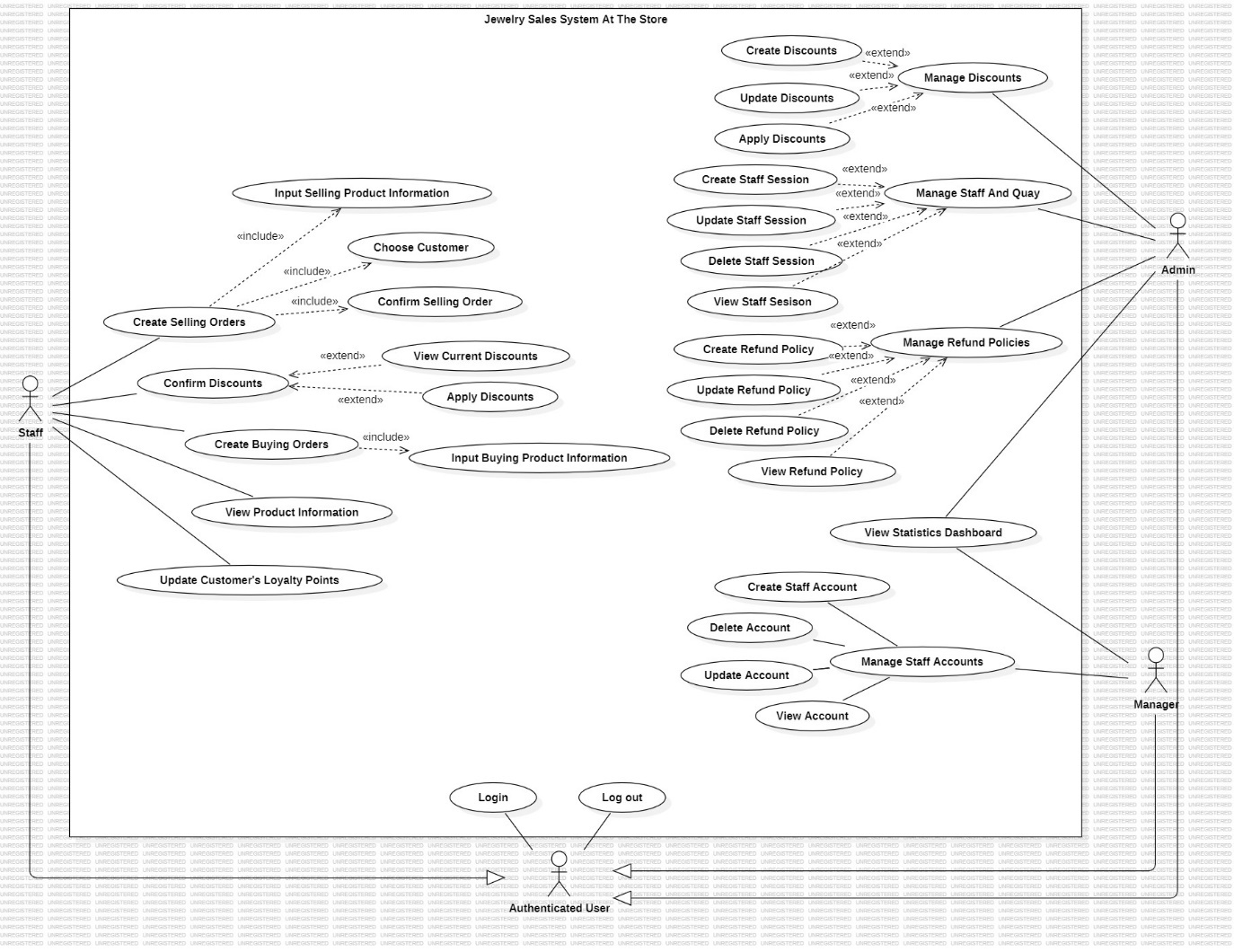
**Reporting and Analytics**: Access to detailed reports and analytics on sales performance, inventory status, staff activities, and customer interactions is necessary for informed decision-making and strategic planning

## Assumptions

* Users have basic computer literacy.
* Necessary hardware and software infrastructure is available.
* Management supports the system’s implementation and use.

# FUNCTIONAL Requirements

## Use Cases Diagram



## Login

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **USE CASE-001 SPECIFICATION** | | | | |
| **Use-case No.** | UC-01 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Login | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 18/06/2024 | **Priority** | High | |
| **Actor:**  Staff, Admin, Manager  **Summary:**  Allows authorised users to access the system by providing valid credentials  **Goal:**  The user successfully logs into the system  **Triggers**  The User intends to log into the system  **Preconditions:**  The user has a valid username and password  **Post Conditions:**  User is logged onto the System and transferred to their role’s dashboard  **Main Success Scenario:**   1. The user navigates to the login page 2. The user enters their username and password 3. The user submits the login form using the Login button 4. The system validates the credentials 5. If the credentials are valid, the system authenticates the user and grants access based on their role 6. The system redirects the user to their respective dashboard or homepage   **Alternative Scenario:**  1.1. Forgot Password Flow:  1.1.1. On the login page, the user selects the "Forgot Password" option.  1.1.2. The system prompts the user to enter their username or email address  1.1.3. The user provides the requested information  1.1.4. The system sends a password reset link to the user's registered email address  1.1.5. The user follows the instructions in the email to reset their password  1.1.6. The user can then log in with their new password  **Exceptions:**  E01.1. Invalid Credentials:  1.1. The system displays an error message in step 4 if the entered credentials are invalid.  1.2. The user is prompted to re-enter their credentials or initiate the "Forgot Password" flow  **Relationships:**  N/A  **Business Rules:**  BR-01: Account Security  BR-02: Password Format | | | | |

## Logout

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| --- | --- | --- | --- | --- |
| **USE CASE-002 SPECIFICATION** | | | | |
| **Use-case No.** | UC-02 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Logout | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 18/06/2024 | **Priority** | High | |
| **Actor:**  Staff, Admin, Manager  **Summary:**  Allows authorised users to securely exit the system  **Goal:**  The user successfully logs out of the system  **Triggers**  The user initiates the log out process by selecting the "Log Out" option from the system’s interface  **Preconditions:**  The user must be logged into the Jewelry Sales System  **Post Conditions:**  The user’s session is terminated  The user is redirected to the login screen or home page  **Main Success Scenario:**  1. The user selects the "Log Out" option from the system menu.  2. The system may prompt the user to confirm their intention to log out  3. The system terminates the user’s session, clearing any session data  4. The system redirects the user to the login page or home page  **Alternative Scenario:**  2.1. Session Timeout  2.1.1 Trigger: The system automatically logs out the user due to inactivity  2.1.2 The system detects a period of inactivity exceeding the predefined timeout limit  2.1.3 The system terminates the user’s session  2.1.4 The system redirects the user to the login page with a message indicating that the session has timed out due to inactivity  **Exceptions:**  E02.1. Network Failure:  2.1. If there is a network failure during the log out process, the system will attempt to log out the user when the connection is restored  **Relationships:**  N/A  **Business Rules:**  N/A | | | | |

## Create Selling Orders

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| **USE CASE-003 SPECIFICATION** | | | | |
| **Use-case No.** | UC-03 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Create Selling Orders | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 18/06/2024 | **Priority** | Normal | |
| **Actor:**  Staff  **Summary:**  Describes the process by which a staff records the details of a customer's purchase transaction in the Jewelry Sales System  **Goal:**  A Selling Order is created in the database of the system  **Triggers**  The Staff initiates the selling order creation process  **Preconditions:**  The Staff must be logged into the Jewelry Sales System  Customer details should be available if they are an existing customer  **Post Conditions:**  The selling order is created and saved in the system  The inventory is updated to reflect the sold items  The customer receives a receipt or order confirmation  Sales data is updated for reporting and analytics  **Main Success Scenario:**   1. The Staff selects the "Create Selling Order" option from the main menu 2. The Staff either selects an existing customer or enters new customer details 3. The Staff scans or selects the jewelry items the customer wants to purchase 4. The Staff reviews the order details with the customer, ensuring accuracy 5. The system calculates the total price, including taxes and discounts 6. The Staff confirms the order with the customer 7. The system updates the inventory to reflect the pending items 8. The system saves the order details for future reference and reporting   **Alternative Scenario:**  3.1. Customer Not Found  3.1.1.Trigger: The Staff cannot find the customer in the system.  3.1.2.The Staff selects the option to add a new customer.  3.1.3. The Staff enters the new customer’s details.  3.1.4. The system saves the new customer information and returns to the order creation process.  3.2. Insufficient Inventory  3.2.1. The system detects insufficient inventory for selected items  3.2.2. The system alerts the Staff about the insufficient stock  3.2.3. The Staff the customer and either removes the item from the order  3.2.4. The Satff adjusts the order accordingly and continues with the order creation process  **Exceptions:**  E03.1. System Error: If there is a system error during order creation, the system will prompt the Staff to save the current state and restart the process  E03.2. Network Failure: If there is a network failure, the system will save the order data locally and synchronize once the network is restored  **Relationships:**  Includes: Input Selling Product Information, Choose Customer, Confirm Selling Order  **Business Rules:**  BR-05, BR-09 | | | | |

## Confirm Discounts

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| **USE CASE-004 SPECIFICATION** | | | | |
| **Use-case No.** | UC-04 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Confirm Discounts | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 18/06/2024 | **Priority** | Normal | |
| **Actor:**  Staff  **Summary:**  Describes the process by which a Staff validates and applies discounts to a customer's order in the Jewelry Sales System  **Goal:**  A discount is applied to a customer’s order in the database (if applicable)  **Triggers**  The Staff initiates the process to apply a discount to a customer's order  **Preconditions:**  The Staff must be logged into the Jewelry Sales System  The customer's order must be in the process of creation or modification  **Post Conditions:**  The selected discounts are validated and applied to the customer's order  The total price of the order is updated to reflect the discounts  **Main Success Scenario:**   1. The Staff selects the "Apply Discount" option during the order creation process 2. The Staff selects the discount(s) to be applied from a list of available discounts 3. The system verifies the eligibility of the selected discounts based on predefined rules (e.g., customer membership status, purchase amount) 4. The system confirms the validity of the selected discounts 5. The system calculates the discounted prices for the selected items and updates the order total 6. The Staff reviews the updated order with the customer, ensuring all discounts are correctly applied 7. The Staff confirms the applied discounts, and the system logs the discount details 8. The Staff proceeds with the order creation process   **Alternative Scenario:**  4.1. Invalid Discount  4.1.1. The system notifies the Staff that the discount is invalid.  4.1.2. The Staff informs the customer and either selects a different discount or continues without applying the invalid discount.  4.1.3. The system reverts any changes made by the invalid discount and updates the order total accordingly.  **Exceptions:**  E03.1. System Error: If there is a system error during discount application, the system will notify the Staff and revert any changes  E03.2. Network Failure: If there is a network failure, the system will save the order data locally and synchronize the discount application once the network is restored  **Relationships:**  Extends: View Current Discounts, Apply Discounts  **Business Rules:**  N/A | | | | |

## Create Buying Orders

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| **USE CASE-005 SPECIFICATION** | | | | |
| **Use-case No.** | UC-05 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Create Buying Orders | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 18/06/2024 | **Priority** | Normal | |
| **Actor:**  Staff  **Summary:**  Describes the process by which a Staff or authorized user records the details of a purchase transaction from suppliers in the Jewelry Sales System  **Goal:**  A Buying Order is created in the database of the system  **Triggers**  The Staff initiates the buying order creation process  **Preconditions:**  The Staff must be logged into the Jewelry Sales System  Customer details should be available if they are an existing customer  **Post Conditions:**  The buying order is created and saved in the system  The inventory is updated to reflect the bought items  The customer receives an order confirmation  Purchase data is updated for reporting and analytics  **Main Success Scenario:**   1. The Staff selects the "Create Buying Order" option from the main menu 2. The Staff either selects an existing customer or enters new customer details 3. The Staff scans or selects the jewelry items the customer wants to sell 4. The Staff reviews the order details with the customer, ensuring accuracy 5. The system calculates the total price 6. The Staff confirms the order with the customer 7. The system updates the inventory to reflect the pending items 8. The system saves the order details for future reference and reporting   **Alternative Scenario:**  5.1. Customer Not Found  5.1.1.Trigger: The Staff cannot find the customer in the system.  5.1.2.The Staff selects the option to add a new customer.  5.1.3. The Staff enters the new customer’s details.  5.1.4. The system saves the new customer information and returns to the order creation process.  **Exceptions:**  E05.1. System Error: If there is a system error during order creation, the system will prompt the Staff to save the current state and restart the process  E05.2. Network Failure: If there is a network failure, the system will save the order data locally and synchronize once the network is restored  **Relationships:**  Includes: Input Buying Product Information  **Business Rules:**  BR-05, BR-09 | | | | |

## View Product Information

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| **USE CASE-006 SPECIFICATION** | | | | |
| **Use-case No.** | UC-06 | **Use-case Version** | | <1.0> |
| **Use-case Name** | View Product Information | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 18/06/2024 | **Priority** | Normal | |
| **Actor:**  Staff  **Summary:**  Describes the process by which a Staff retrieves and displays detailed information about a specific product in the Jewelry Sales System  **Goal:**  The system retrieves and displays the product details  **Triggers**  The Staff initiates a request to view details of a specific product  **Preconditions:**  The Staff must be logged into the Jewelry Sales System  The product data must be available and up-to-date in the system  **Post Conditions:**  The product information is displayed to the Staff  **Main Success Scenario:**   1. The Staff selects the "View Product Information" option from the main menu 2. The Staff searches for the product by entering a keyword or product ID 3. The Staff selects the desired product from the search results 4. The system retrieves and displays the product details   **Alternative Scenario:**  6.1. Product Not Found  6.1.1. The system notifies the Staff that the product is not found  6.1.2. The Staff may refine the search criteria and try again or inform the Inventory Manager for further investigation  6.2. Product Information Update  6.2.1. The Staff selects the option to update product information (if authorized)  6.2.2. The Staff enters the correct informatio  6.2.3. The system updates the product details and logs the changes  **Exceptions:**  E6.1. System Error: If there is a system error during the retrieval of product information, the system will notify the Staff  E6.2. Network Failure: If there is a network failure, the system will notify the Staff and may provide limited offline information if available  **Relationships:**  N/A  **Business Rules:**  BR-05 | | | | |

## Update Customer’s Loyalty Points

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| **USE CASE-007 SPECIFICATION** | | | | |
| **Use-case No.** | UC-07 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Update Customer’s Loyalty Points | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 21/06/2024 | **Priority** | Normal | |
| **Actor:**  Staff  **Summary:**  Describes the process by which a Staff updates a customer's loyalty points in the Jewelry Sales System  **Goal:**  The customer’s loyalty points are updated accurately in the system  **Triggers**  A purchase, return, or other transaction that affects the customer’s loyalty points initiates the update process  **Preconditions:**  The Staff must be logged into the Jewelry Sales System  The customer's account and loyalty points data must be available in the system  **Post Conditions:**  The customer’s loyalty points are updated accurately in the system  The system logs the update for audit and reporting purposes  **Main Success Scenario:**   1. Staff selects the "Update Customer’s Loyalty Points" option from the main menu 2. The Staff searches for the customer by entering a unique identifier, such as customer ID, phone number, or email 3. The Staff selects the customer from the search results 4. The Staff enters the details of the points update, including the number of points to add or deduct and the reason for the update 5. The Staff reviews the update details and confirms the update 6. The system updates the customer’s loyalty points and logs the transaction 7. The Staff completes the process, and the system returns to the main menu   **Alternative Scenario:**  7.1. Customer Not Found  7.1.1. The system notifies the Staff that the customer is not found.  7.1.2. The Staff may refine the search criteria and try again or inform the customer that their details need to be updated in the system.  7.2. Invalid Points Entry  7.2.1. The system notifies the Staff of the invalid entry.  7.2.2. The Staff corrects the entry and proceeds with the update.  **Exceptions:**  E7.1. System Error: If there is a system error during the points update, the system will notify the Staff and revert any changes. The Staff can retry the process or contact technical support.  E7.2. Network Failure: If there is a network failure, the system will save the update data locally and synchronize the points update once the network is restored.  **Relationships:**  N/A  **Business Rules:**  N/A | | | | |

## Create Discount

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| **USE CASE-008 SPECIFICATION** | | | | |
| **Use-case No.** | UC-08 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Create Discount | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 25/06/2024 | **Priority** | Normal | |
| **Actor:**  Admin  **Summary:**  Describes the process by which an Admin sets up new discount offers in the Jewelry Sales System  **Goal:**  A new discount is created and saved in the system  **Triggers**  The Admin decides to create a new discount offer, either as part of a marketing campaign, a promotional event, or regular discount management  **Preconditions:**  The Admin must be logged into the Jewelry Sales System with appropriate permissions  **Post Conditions:**  A new discount is created and saved in the system.  The discount is available for application to eligible orders by Staff  **Main Success Scenario:**   1. Admin selects the "Create Discount" option from the “Manage Discounts” dashboard. 2. The Admin enters the discount details, including the discount name, type (percentage or fixed amount), and description. 3. The Admin defines the eligibility criteria for the discount, such as minimum purchase amount, customer membership status, or specific products/categories. 4. The Admin specifies the discount amount or percentage to be applied. 5. The Admin sets the start and end dates for the discount, defining when it will be active. 6. The Admin can add any additional rules or conditions, such as usage limits per customer or order. 7. The Admin reviews all entered details to ensure accuracy. 8. The Admin saves the new discount in the system.   **Alternative Scenario:**  8.1. Invalid Discount Details  8.1.1. The system detects invalid or incomplete details (e.g., missing mandatory fields, invalid date range).  8.1.2. The system prompts the Admin to correct the errors.  8.1.3. The Admin corrects the errors and resubmits the discount details.  8.1.4. The system validates the corrected details and proceeds with the discount creation.  8.2. Duplicate Discount  8.2.1. The system alerts the Admin about the potential duplicate.  8.2.2. The Admin decides to either modify the existing discount or create a new one with different criteria.  8.2.3. The Admin makes the necessary changes and saves the discount.  **Exceptions:**  E8.1. System Error: If there is a system error during the discount creation process, the system will notify the Admin and log the error. The Admin can retry the process or contact technical support.  E8.2. Network Failure: If there is a network failure, the system will save the entered discount data locally and synchronize it once the network is restored.  **Relationships:**  Extended from: Manage Discounts  **Business Rules:**  N/A | | | | |

## Update Discount

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| **USE CASE-009 SPECIFICATION** | | | | |
| **Use-case No.** | UC-09 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Update Discount | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 25/06/2024 | **Priority** | Normal | |
| **Actor:**  Admin  **Summary:**  Describes the process by which an Admin update an offer in the Jewelry Sales System  **Goal:**  A discount is updated and saved in the system  **Triggers**  The Admin decides to update a discount offer  **Preconditions:**  The Admin must be logged into the Jewelry Sales System with appropriate permissions  **Post Conditions:**  A discount is updated and saved in the system.  The updated discount is immediately updated for use in new transactions.  **Main Success Scenario:**   1. Admin selects the "Update Discount" option from the “Manage Discounts” dashboard. 2. The Admin searches for and selects the discount to be updated from a list of existing discounts. 3. The Admin updates the necessary discount details, such as the discount rate, eligibility criteria, validity period, and associated products. 4. The system validates the updated discount details to ensure they meet all predefined rules and constraints. 5. The Admin reviews the changes and confirms the update. 6. The system saves the updated discount details.   **Alternative Scenario:**  9.1. Invalid Discount Details  9.1.1. The system notifies the administrator of the invalid details and specifies the errors.  9.1.2. The administrator corrects the details and resubmits the update.  9.1.3. The system revalidates the details and proceeds with the update if the corrections are valid.  9.2. Discount Not Found  9.2.1. The system notifies the administrator that the discount cannot be found.  9.2.2. The administrator verifies the discount details and may need to retry the search or check for possible data entry errors.  9.2.3. If the discount still cannot be found, the administrator may need to create a new discount or contact technical support.  **Exceptions:**  E9.1. System Error: If there is a system error during the update process, the system will notify the administrator and log the error. The administrator can retry the process or contact technical support.  E9.2. Network Failure: If there is a network failure, the system will save any changes locally and synchronize the update once the network is restored.  **Relationships:**  Extended from: Manage Discounts  **Business Rules:**  BR-02 | | | | |

## Delete Discount

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| --- | --- | --- | --- | --- |
| **USE CASE-10 SPECIFICATION** | | | | |
| **Use-case No.** | UC-10 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Delete Discount | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 25/06/2024 | **Priority** | Normal | |
| **Actor:**  Admin  **Summary:**  Describes the process by which an administrator removes an existing discount from the Jewelry Sales System  **Goal:**  The selected discount is removed from the system  **Triggers**  The administrator initiates the process to delete a discount, often in response to expired promotions, changes in business strategies, or the need to correct erroneous discount entries  **Preconditions:**  The Admin must be logged into the Jewelry Sales System with appropriate permissions  **Post Conditions:**  The selected discount is removed from the system.  The discount is no longer available for application in new transactions.  **Main Success Scenario:**   1. Admin selects the "Delete Discount" option from the “Manage Discounts” dashboard. 2. The Admin searches for and selects the discount to be deleted from a list of existing discounts. 3. The Admin reviews the changes and confirms the update. 4. The Admin confirms the deletion of the discount 5. The system removes the discount from the database.   **Alternative Scenario:**  10.1. Deletion Cancelled  10.1.1. The administrator cancels the deletion process.  10.1.2.The system retains the discount in the database.  10.1.3. The administrator is returned to the previous menu or discount management screen.  **Exceptions:**  E10.1. System Error: If there is a system error during the deletion process, the system will notify the administrator and log the error. The administrator can retry the process or contact technical support.  E10.2. Network Failure: If there is a network failure, the system will save the deletion action locally and synchronize once the network is restored.  **Relationships:**  Extended from: Manage Discounts  **Business Rules:**  BR-01, BR-02 | | | | |

## Create Refund Policy

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| --- | --- | --- | --- | --- |
| **USE CASE-11 SPECIFICATION** | | | | |
| **Use-case No.** | UC-11 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Create Refund Policy | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 28/06/2024 | **Priority** | Normal | |
| **Actor:**  Admin  **Summary:**  Describes the process by which an Admin sets up new refund policy in the Jewelry Sales System  **Goal:**  A new policy is created and saved in the system  **Triggers**  The admin initiates the process to create a new refund policy, often in response to new business strategies, customer feedback, or changes in store policies.  **Preconditions:**  The admin must be logged into the Jewelry Sales System with appropriate permissions to create refund policies  **Post Conditions:**  A new refund policy is created and saved in the system.  The refund policy is immediately available for use in relevant transactions.  **Main Success Scenario:**   1. The admin selects the "Create Refund Policy" option from the administration menu. 2. The admin enters the refund policy details, including: Policy name, Description, Applicable products or categories, Exceptions to the policy 3. The admin reviews the entered details for accuracy and completeness. 4. The admin confirms the creation of the refund policy. 5. The system saves the new refund policy in the database.   **Alternative Scenario:**  11.1. Incomplete Policy Details  11.1.1. The system notifies the admin of the missing or incomplete details.  11.1.2. The admin provides the missing information.  11.1.3. The system validates the complete details and proceeds with the creation process.  11.2. Creation Cancelled  11.2.1. The admin cancels the creation process.  11.2.2. The system does not save the refund policy.  11.2.3. The admin is returned to the previous menu or refund policy management screen.  **Exceptions:**  E11.1. System Error: If there is a system error during the creation process, the system will notify the admin and log the error. The admin can retry the process or contact technical support.  E11.2. Network Failure: If there is a network failure, the system will save the policy data locally and synchronize once the network is restored.  **Relationships:**  Extended from: Manage Refund Policies  **Business Rules:**  N/A | | | | |

## Update Refund Policy

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| **USE CASE-12 SPECIFICATION** | | | | |
| **Use-case No.** | UC-12 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Update Refund Policy | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 28/06/2024 | **Priority** | Normal | |
| **Actor:**  Admin  **Summary:**  Describes the process by which an Admin update a refund policy in the Jewelry Sales System  **Goal:**  A refund policy is updated and saved in the system  **Triggers**  The admin initiates the process to update an existing refund policy, often in response to new business strategies, customer feedback, or changes in store policies  **Preconditions:**  The admin must be logged into the Jewelry Sales System with appropriate permissions to update refund policies.  The refund policy to be updated must exist in the system  **Post Conditions:**  The selected refund policy is updated and saved in the system.  The updated refund policy is immediately available for use in relevant transactions.  **Main Success Scenario:**   1. The admin selects the "Update Refund Policy" option from the administration menu. 2. The admin searches for and selects the refund policy to be updated from a list of existing policies. 3. The admin updates the necessary refund policy details, such as: Policy name, Description, Eligibility criteria, Applicable products or categories, Exceptions to the policy 4. The admin reviews the updated details for accuracy and completeness. 5. The admin confirms the updates to the refund policy. 6. The system saves the updated refund policy in the database   **Alternative Scenario:**  12.1. Invalid Policy Details  12.1.1. The system notifies the admin of the invalid details and specifies the errors.  12.1.2. The admin corrects the details and resubmits the update.  12.1.3. The system revalidates the details and proceeds with the update if the corrections are valid.  12.2. Policy Not Found  12.2.1. The system notifies the admin that the policy cannot be found.  12.2.2. The admin verifies the policy details and may need to retry the search or check for possible data entry errors.  12.2.3. If the policy still cannot be found, the admin may need to create a new policy or contact technical support.  12.3. Update Cancelled  12.3.1. The admin cancels the update process.  12.3.2. The system retains the original refund policy in the database.  12.3.3. The admin is returned to the previous menu or refund policy management screen.  **Exceptions:**  E12.1. System Error: If there is a system error during the update process, the system will notify the admin and log the error. The admin can retry the process or contact technical support.  E12.2. Network Failure: If there is a network failure, the system will save the updated policy data locally and synchronize once the network is restored.  **Relationships:**  Extended from: Manage Refund Policies  **Business Rules:**  N/A | | | | |

## Delete Refund Policy

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| **USE CASE-13 SPECIFICATION** | | | | |
| **Use-case No.** | UC-13 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Delete Refund Policy | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 01/07/2024 | **Priority** | Normal | |
| **Actor:**  Admin  **Summary:**  Describes the process by which an administrator removes an existing refund policy from the Jewelry Sales System  **Goal:**  The selected refund policy is removed from the system  **Triggers**  The Delete Refund Policy use case describes the process by which an admin removes an existing refund policy from the Jewelry Sales System  **Preconditions:**  The Admin must be logged into the Jewelry Sales System with appropriate permissions  **Post Conditions:**  The selected refund policy is removed from the system.  The refund policy is no longer available for application in new transactions.  **Main Success Scenario:**   1. The admin selects the "Delete Refund Policy" option from the administration menu. 2. The admin searches for and selects the refund policy to be deleted from a list of existing policies. 3. The system displays the details of the selected refund policy for the admin to review. 4. The admin confirms the deletion of the refund policy. 5. The system removes the refund policy from the database.   **Alternative Scenario:**  13.1. Policy Not Found  13.1.1. The system notifies the admin that the policy cannot be found.  13.1.2. The admin verifies the policy details and may need to retry the search or check for possible data entry errors.  13.1.3. If the policy still cannot be found, the admin may need to contact technical support.  13.2. Deletion Cancelled  13.2.1. The admin cancels the deletion process.  13.2.2. The system retains the refund policy in the database.  13.2.3. The admin is returned to the previous menu or refund policy management screen.  **Exceptions:**  E13.1. System Error: If there is a system error during the deletion process, the system will notify the administrator and log the error. The administrator can retry the process or contact technical support.  E13.2. Network Failure: If there is a network failure, the system will save the deletion action locally and synchronize once the network is restored.  **Relationships:**  Extended from: Manage Discounts  **Business Rules:**  N/A | | | | |

## View Refund Policy

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| **USE CASE-14 SPECIFICATION** | | | | |
| **Use-case No.** | UC-14 | **Use-case Version** | | <1.0> |
| **Use-case Name** | View Refund Policy | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 01/07/2024 | **Priority** | Normal | |
| **Actor:**  Admin  **Summary:**  Describes the process by which an admin views the details of existing refund policies in the Jewelry Sales System  **Goal:**  The admin successfully views the details of the selected refund policy  **Triggers**  The admin initiates the process to view refund policies, often to check the details for customer inquiries, policy reviews, or updates  **Preconditions:**  The admin must be logged into the Jewelry Sales System with appropriate permissions to view refund policies  **Post Conditions:**  The admin successfully views the details of the selected refund policy  **Main Success Scenario:**   1. The admin selects the "View Refund Policy" option from the administration menu. 2. The system displays a list of existing refund policies. 3. The admin selects a refund policy from the list to view its details. 4. The system displays the details of the selected refund policy, including: Policy name, Description, Eligibility criteria, Applicable products or categories, Exceptions to the policy   **Alternative Scenario:**  14.1. Policy Not Found  14.1.1. The system notifies the admin that the policy cannot be found.  14.1.2. The admin verifies the policy details and may need to retry the search or check for possible data entry errors  **Exceptions:**  E14.1. System Error: If there is a system error during the viewing process, the system will notify the admin and log the error. The admin can retry the process or contact technical support.  E14.2. Network Failure: If there is a network failure, the system will notify the admin, and the admin can retry viewing the policy once the network is restored  **Relationships:**  Extended from: Manage Discounts  **Business Rules:**  N/A | | | | |

## View Statistics Dashboard

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| **USE CASE-15 SPECIFICATION** | | | | |
| **Use-case No.** | UC-15 | **Use-case Version** | | <1.0> |
| **Use-case Name** | View Statistics Dashboard | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 02/07/2024 | **Priority** | Normal | |
| **Actor:**  Admin, Manager  **Summary:**  Describes the process by which an admin or manager views a dashboard displaying various statistics and metrics related to the Jewelry Sales System  **Goal:**  The admin or manager successfully views the statistics dashboard with accurate and current data  **Triggers**  The admin or manager initiates the process to view the statistics dashboard, often for monitoring business performance, making informed decisions, or preparing reports  **Preconditions:**  The admin or manager must be logged into the Jewelry Sales System with appropriate permissions to view the statistics dashboard  **Post Conditions:**  The admin or manager successfully views the statistics dashboard with accurate and current data  **Main Success Scenario:**   1. The admin or manager selects the "View Statistics Dashboard" option from the main menu. 2. The system retrieves the relevant data and loads the statistics dashboard. 3. The system displays the dashboard, which includes various metrics 4. The admin or manager can interact with the dashboard to filter data, drill down into specific metrics, or generate reports.   **Alternative Scenario:**  15.1. Data Retrieval Error  15.1.1. The system notifies the admin or manager of the error and provides details.>  **Exceptions:**  E15.1. System Error: If there is a system error during the viewing process, the system will notify the admin or manager and log the error. The user can retry the process or contact technical support.  E15.2. Network Failure: If there is a network failure, the system will notify the admin or manager, and they can retry viewing the dashboard once the network is restored  **Relationships:**  N/A  **Business Rules:**  BR-06 | | | | |

## Create Staff Account

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| **USE CASE-16 SPECIFICATION** | | | | |
| **Use-case No.** | UC-16 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Create Staff Account | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 03/07/2024 | **Priority** | Normal | |
| **Actor:**  Manager  **Summary:**  Describes the process by which a manager creates a new staff account in the Jewelry Sales System  **Goal:**  A new staff account is created and saved in the system  **Triggers**  The manager initiates the process to create a new staff account, often in response to hiring a new staff member or expanding the team  **Preconditions:**  The manager must be logged into the Jewelry Sales System with appropriate permissions to create staff accounts  **Post Conditions:**  A new staff account is created and saved in the system.  The new staff member can log in to the system using their credentials>  **Main Success Scenario:**   1. The manager selects the "Create Staff Account" option from the administration menu. 2. The manager enters the necessary details for the new staff member, including: 3. The manager reviews the entered details for accuracy and completeness. 4. The manager confirms the creation of the staff account. 5. The system saves the new staff account in the database.   **Alternative Scenario:**  16.1. Missing or Invalid Details  16.1.1. The system notifies the manager of the missing or invalid details.  16.1.2. The manager corrects the details and resubmits the form.  16.1.3. The system validates the details and proceeds with the account creation if the corrections are valid.  16.2. Username Already Exists  16.2.1. The system notifies the manager that the username is already taken.  16.2.2. The manager selects a different username.  16.2.3. The system validates the new username and proceeds with the account creation.  16.3. Creation Cancelled  16.3.1. The manager cancels the creation process.  16.3.2. The system does not save the staff account.  16.3.3. The manager is returned to the previous menu or staff management screen.  **Exceptions:**  E16.1. System Error: If there is a system error during the creation process, the system will notify the manager and log the error. The manager can retry the process or contact technical support.  E16.2. Network Failure: If there is a network failure, the system will save the account data locally and synchronize once the network is restored  **Relationships:**  Manage Staff Accounts  **Business Rules:**  BR-06 | | | | |

## Delete Staff Account

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| **USE CASE-17 SPECIFICATION** | | | | |
| **Use-case No.** | UC-17 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Delete Staff Account | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 03/07/2024 | **Priority** | Normal | |
| **Actor:**  Manager  **Summary:**  Describes the process by which a manager removes an existing staff account from the Jewelry Sales System  **Goal:**  The selected staff account is deactivated or removed from the system  **Triggers**  The manager initiates the process to delete a staff account  **Preconditions:**  The manager must be logged into the Jewelry Sales System with appropriate permissions to delete staff accounts  **Post Conditions:**  The selected staff account is deactivated or removed from the system  The staff member associated with the deleted account can no longer access the system  **Main Success Scenario:**   1. The manager selects the "Delete Staff Account" option from the administration menu. 2. The manager searches for and selects the staff account to be deleted from a list of existing accounts. 3. The system displays the details of the selected staff account for the manager to review. 4. The manager confirms the deletion of the staff account. 5. The system deactivates or removes the staff account from the database.   **Alternative Scenario:**  17.1. Deletion Cancelled  17.1.1. The manager cancels the deletion process.  17.1.2. The system retains the staff account in the database.  17.1.3. The manager is returned to the previous menu or staff management screen  **Exceptions:**  E17.1. System Error: If there is a system error during the deletion process, the system will notify the manager and log the error. The manager can retry the process or contact technical support.  E17.2. Network Failure: If there is a network failure, the system will save the deletion action locally and synchronize once the network is restored.  **Relationships:**  Manage Staff Accounts  **Business Rules:**  BR-06 | | | | |

## Update Staff Account

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| **USE CASE-18 SPECIFICATION** | | | | |
| **Use-case No.** | UC-18 | **Use-case Version** | | <1.0> |
| **Use-case Name** | Update Staff Account | | | |
| **Author** | Nguyen Ngoc Duc | | | |
| **Date** | 04/07/2024 | **Priority** | Normal | |
| **Actor:**  Manager  **Summary:**  Describes the process by which a manager updates the details of an existing staff account in the Jewelry Sales System  **Goal:**  The selected staff account is updated with the new details  **Triggers**  The manager initiates the process to update a staff account  **Preconditions:**  The manager must be logged into the Jewelry Sales System with appropriate permissions to update staff accounts  **Post Conditions:**  The selected staff account is updated with the new details  **Main Success Scenario:**   1. The manager selects the "Update Staff Account" option from the administration menu. 2. The manager searches for and selects the staff account to be updated from a list of existing accounts. 3. The system displays the current details of the selected staff account. 4. The manager updates the necessary details of the staff account 5. The manager reviews the updated details for accuracy and completeness. 6. The manager confirms the updates to the staff account. 7. The system saves the updated details in the database.   **Alternative Scenario:**  18.1. Update Cancelled  18.1.1. The manager cancels the update process.  18.1.2. The system retains the original staff account details in the database.  18.1.3. The manager is returned to the previous menu or staff management screen.  **Exceptions:**  E18.1. System Error: If there is a system error during the update process, the system will notify the manager and log the error. The manager can retry the process or contact technical support.  E18.2. Network Failure: If there is a network failure, the system will save the update action locally and synchronize once the network is restored.  **Relationships:**  Manage Staff Accounts  **Business Rules:**  BR-06 | | | | |

## View Staff Account

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| **USE CASE-19 SPECIFICATION** | | | | |
| **Use-case No.** | UC-19 | **Use-case Version** | | <1.0> |
| **Use-case Name** | View Staff Account | | | |
| **Author** | <Members> | | | |
| **Date** | 05/07/2024 | **Priority** | Normal | |
| **Actor:**  Manager  **Summary:**  Describes the process by which a manager views the details of existing staff accounts in the Jewelry Sales System  **Goal:**  The manager successfully views the details of the selected staff account  **Triggers**  The manager initiates the process to view a staff account, often in response to monitoring staff information, verifying roles, or preparing for updates  **Preconditions:**  The manager must be logged into the Jewelry Sales System with appropriate permissions to view staff accounts  **Post Conditions:**  The manager successfully views the details of the selected staff account  **Main Success Scenario:**   1. The manager selects the "View Staff Account" option from the administration menu. 2. The manager searches for and selects the staff account to be viewed from a list of existing accounts. 3. The system displays the details of the selected staff account   **Alternative Scenario:**  19.1. Account Not Found  19.1.1. The system notifies the manager that the account cannot be found.  19.1.2. The manager verifies the account details and may need to retry the search or check for possible data entry errors.  19.1.3. If the account still cannot be found, the manager may need to contact technical support  **Exceptions:**  E19.1. System Error: If there is a system error during the viewing process, the system will notify the manager and log the error. The manager can retry the process or contact technical support.  E19.2. Network Failure: If there is a network failure, the system will notify the manager, and the manager can retry viewing the account once the network is restored  **Relationships:**  Manage Staff Accounts  **Business Rules:**  BR-06 | | | | |

# NON-FUNCTIONAL Requirements

## Usability

### Training time

* The system must be designed so that a normal user, such as a new staff member, can become productive in core operations within 4 hours of training

### Task time

* The system should allow a typical sales transaction to be completed within 3 minutes
* Inventory checks should be performed within 2 minutes
* Generating a standard sales report should take no longer than 5 minutes

### Conformity to Usability

* The system must ensure that it is usable by people with disabilities. Furthermore, the user interface design should ensure consistency, efficiency, and ease of use.

## Reliability

### Availability

The system must maintain an availability of 99.9%, equating to a maximum of 8.77 hours of downtime per year.

### Mean Time Between Failures (MTBF)

The system should have an MTBF of at least 10,000 hours, ensuring long intervals between any significant system failures.

### Mean Time To Repair (MTTR)

The system must have an MTTR of no more than 1 hour, ensuring that any critical issues are resolved swiftly to minimize disruption.

### Bugs or Defect Rate

All identified bugs or defects must be addressed and resolved in the next release cycle, with critical bugs fixed immediately within a 24-hour timeframe.

## Performance

### Average Response Time

The system must process a standard transaction, such as a sales order, within an average of 2 seconds and should not exceed a maximum response time of 5 seconds for any transaction under normal operating conditions.

### Throughput

The system must support a minimum throughput of 30 transactions per second handle peak loads efficiently.

### Degradation Modes

The system should provide alerts to admins and managers when performance degrades beyond acceptable thresholds, enabling proactive measures to be taken

## Supportability

[This section indicates any requirements that will enhance the supportability or maintainability of the system being built, including coding standards, naming conventions, class libraries, maintenance access, and maintenance utilities.]

### Maintainability

The system must be modular in design, allowing individual components to be updated or replaced without affecting the entire system.

### Upgradability

The system must support seamless updates and upgrades with minimal downtime. Updates should be possible during non-business hours to avoid disruption

# Supporting Information

## Bussiness Rules

### BR-01

Discounts with existing orders cannot be deleted.

### BR-02

Discounts can be searched by ID or name

### BR-03

Information Security and Management Guidelines:

* Ensure data security.
* Manage access rights.
* Backup data

### BR-04

Customer Care Guidelines:

Loyalty Program: Implement a customer loyalty policy

### BR-05

Staff can view order details (customer information, purchased products, amount, etc.).

### BR-06

Managers can modify some staff information and view dashboard

### BR-07

Staff, Admin and Manager emails must be verified and authenticated

### BR-08

Passwords must not exceed 20 characters and must be secured

### BR-09

Invoice details include customer information, product names, amount, and purchase date

### BR-10

Invoice information will be stored in the transaction history on the store dashboard

## Application Messages List