Requirement & Design Specification.

Jewelry Sales System At The Store.

Phần mềm bán hàng trang sức tại cửa hàng.

– Ho Chi Minh, May 2024 –

Record of Changes

Version	Date	A* M, D	In charge	Change Description
V1.0		A		
		d		

*A - Added M - Modified D - Deleted

Contents

I. Overview

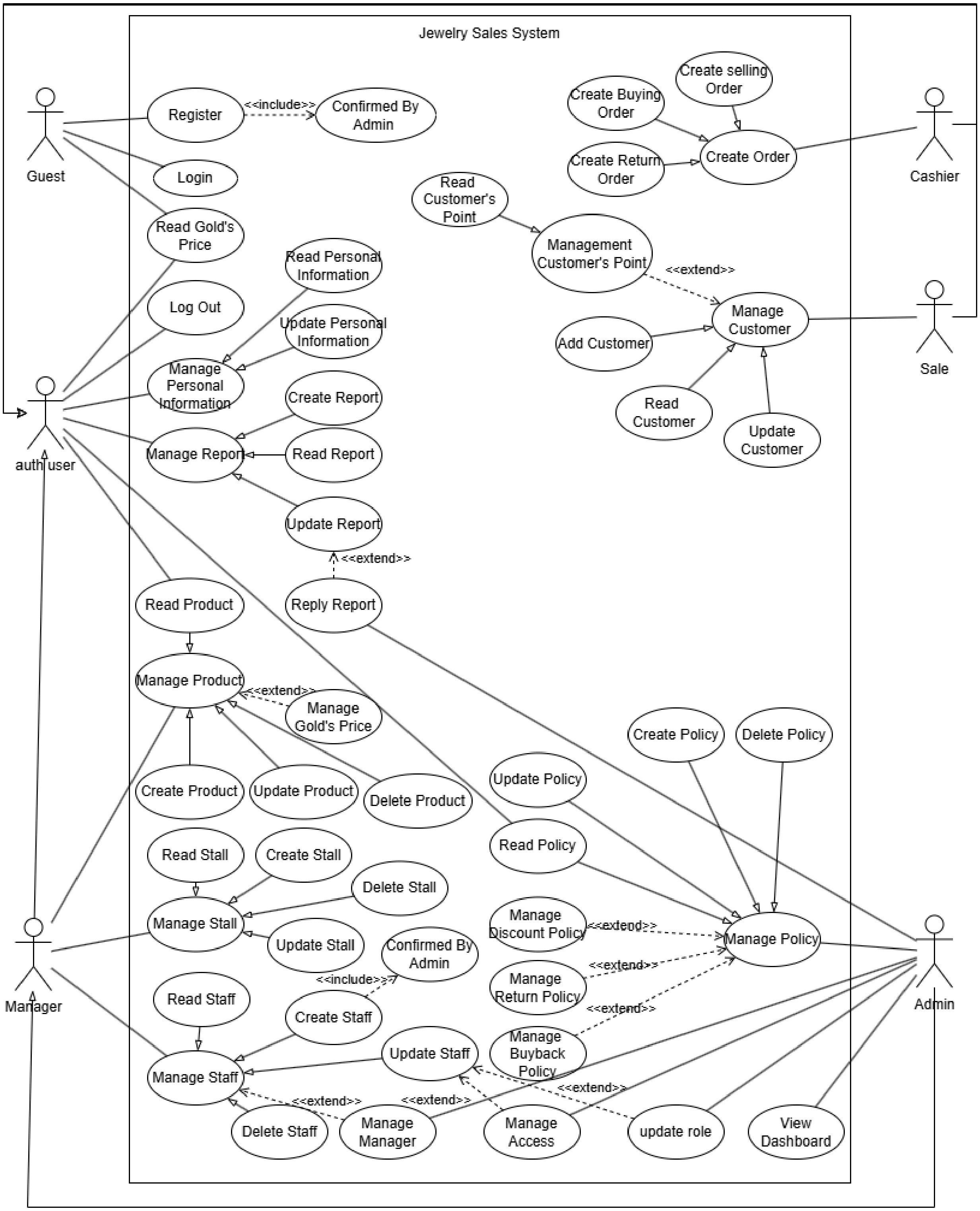
1. User Requirements

1.1 Actors

#	Actor	Description
1	Guest	Guest is a person who can buy jewelry products, enjoy promotions and discounts, and exchange or resell purchased jewelry.
2	Sales	Sales can assist customers in choosing products, and advise on promotions, discounts, and return policies. Apply promotions and discounts (when confirmed by management) and process jewelry buybacks from customers
3	Cashier	Cashier is responsible for creating orders and printing invoices, printing warranty cards and printing purchase invoices.
4	Admin	Admin is a person who has administrative privileges for the entire system
5	Manager	Manager has the right to confirm discounts for customers, set up and manage promotions. Manage staff and counter revenue, manage point accumulation for customers, and manage products in the Stall.

1.2 Use Cases

a. Diagram(s)



b. Descriptions

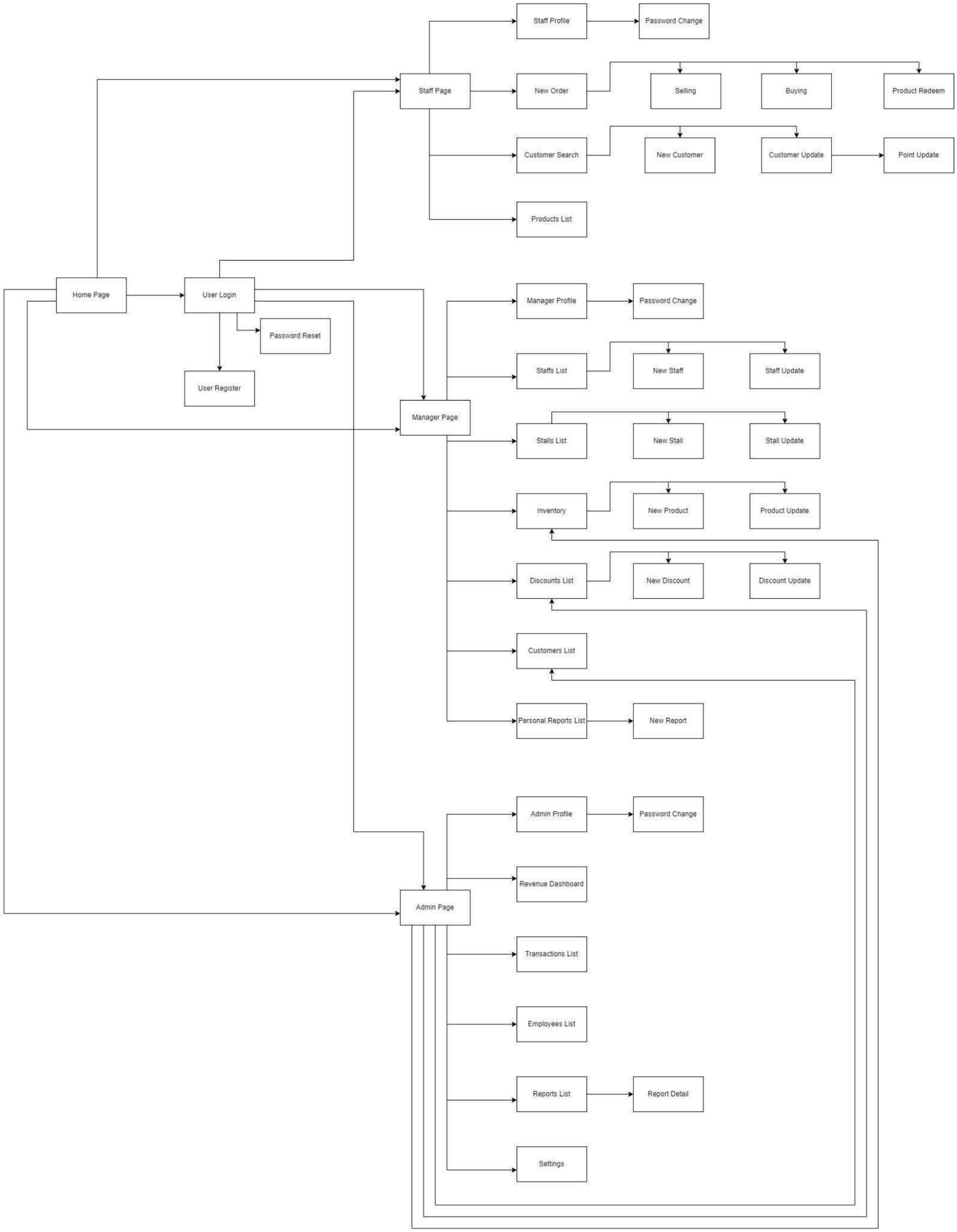
This part describes the use cases, you can follow the table form as below]

ID	Feature	Use Case	Use Case Description
01	Register	Guest	Guest registers in the system and awaits admin confirmation
02	Login	Guest	Guest logs into the system
03	Read Gold’s Price	Guest	Guests can view the current price of gold
04	Create Order	Cashier	The cashier can create a buying, selling, or return order
05	Read Gold’s Price	Auth User	The Cashier can view the current price of gold
06	Logout	Auth User	The cashier logout into the system
07	Manage Report	Auth User	Have permission to read, create, and update reports of customers or store employees and can even reply to that report
08	Manage personal information	Auth User	Store employees or managers can manage their personal information as read and can update the information if anything changes and needs admin confirmation.
09	Read Product	Auth User	Store employees or managers can read or see detailed information about that product
10	Read Policy	Auth User	Store employees or managers can view detailed information about the policy
11	Manage Customer	Sales	Have permission to add, read customer information or update Customer information
12	Manage Customer’s Point	Sales	Have the right to view current point information to apply promotions for customers
13	Manage Policy	Admin	Admin has the right to manage the store's incentive policies such as read, create, delete, or even update those incentives.
14	Manage Discount Policy	Admin	Admin can manage discount policies such as creating new discount policies and reading, updating, or deleting those discount policies
15	Manage Return Policy	Admin	Admin can manage return policies such as creating new return policies and reading, updating, or deleting those return policies
16	Manage Buyback Policy	Admin	Admin can manage Buyback policies such as creating new Buyback policies and reading, updating, or deleting those Buyback policies
17	Manage Access	Admin	Admin can manage user and employee access rights such as create a new user and read, update, or delete that user from the system.
18	Update Role	Admin	Admin is the person who has the right to update an employee's role to sales or cashier according to that employee's abilities

19	View Dashboard	Admin	Admin is the only person who has the right to view the dashboard of sales statistics of the entire store and will then come up with appropriate plans to improve the store.
20	Manage Manager	Admin	Admin is the person with the highest authority who can manage the entire system, manger, and even the store's staff.
21	Manage Product	Manager	This use case describes the process of managing products within the jewelry sales management system for the Manager actor, including additional details for a more comprehensive understanding of the use case.
22	Manage Gold’s Price	Manager	The manager can manage gold price information including creating, reading, updating, and deleting gold's price on the system
23	Manage Stall	Manager	This use case describes the functionalities an Actor Manager can perform to manage individual stalls within the jewelry store. This includes managing product information, handling sales and returns, and potentially managing staff assigned to specific stalls (depending on system design).
24	Manage Staff	Manager	This use case describes the process of how an Actor Manager can manage their staff. This includes adding new staff members, updating the information of existing staff members, and deleting staff members.

2. Overall Functionalities

2.1 Screens Flow



2.2 Screen Descriptions

#	Feature	Screen	Description
1	Login	Login	Allows users to sign in to the application using their username and password.
2	Register	Register	Allows new users to create an account by providing their personal information, contact information, and employment information.
3	Manage Staff Profile	Staff Profile	Displays all information about the selected staff , including personal information, contact information, and employment information.
4	Create New Staff	Create Staff	Allows admins to create new staff accounts by providing their personal information, contact information, and employment information.
5	Update Staff	Update Staff	Allows Manager to update the profile information of existing staff.
6	Read Staff Profile	Read Staff	Allows Manager or managers to read the profile information of exiting staff.
7	Delete Staff Profile	Delete Staff	Allows Manager to delete the profile information of existing staff.
8	Individual Report	Individual Report	Displays the user's individual report, including job performance and compensation information.
9	New Report	New Report	Allows users to create new reports by selecting the desired report criteria.
10	Revenue Dashboard	Revenue Dashboard	Displays the company's sales performance over a specified time period.
11	Manage Roles	Manage Roles	Allows users to manage user roles, including assigning permissions to other users.
	Change Password	Change Password	Allows users to change their password.
	Create Customer Point	Create Customer Point	Allows sales staff to create cumulative scorecards for customers when purchasing products and must be approved by the admin
	Update Customer Point	Update Customer Point	Allows sales staff to update cumulative scorecards for customers when purchasing products using loyalty coupons and must be approved by the admin.
	Update Product	Update Product	Allows manager to update the quantity of products in the stall when the stall is out of stock
	Create new product	Create new product	Allows managers to add new products to the stall
	View Product List	Product List	Allows Staff , Manager, Admin view all product in the stall.

	Create New Stall	Create Stall	Allows admins to create new Stall by providing stall infomation (Name, Id ,...)
	Update Stall	Update Stall	Allows Manager to update the profile information of existing Stall.
	Read Stall Profile	Read Stall	Allows Manager or managers to read the profile information of exiting Stall.
	Delete Stall Profile	Delete Stall	Allows Manager to delete the profile information of existing Stall.

2.3 Screen Authorization

Screen	Guest	Cashier	Sales	Manager	Admin
Login	X	X	X	X	X
Register	X	X	X		
Staff Profile		X	X	X	X
Create Staff				X	X
Update Staff				X	
Read Staff		X	X	X	
Delete Staff					X
Individual Report		X	X	X	X
New Report		X	X	X	X
Revenue Dashboard					X
Manage Roles				X	X
Change Password		X	X	X	X
Create Customer Point			X	X	
Update Customer Point			X	X	
Update Product				X	X
Create new product				X	X
Product List	X	X	X	X	
Create Stall				X	X
Update Stall				X	
Read Stall	X	X	X	X	X
Delete Stall				X	X

2.4 Non-UI Functions

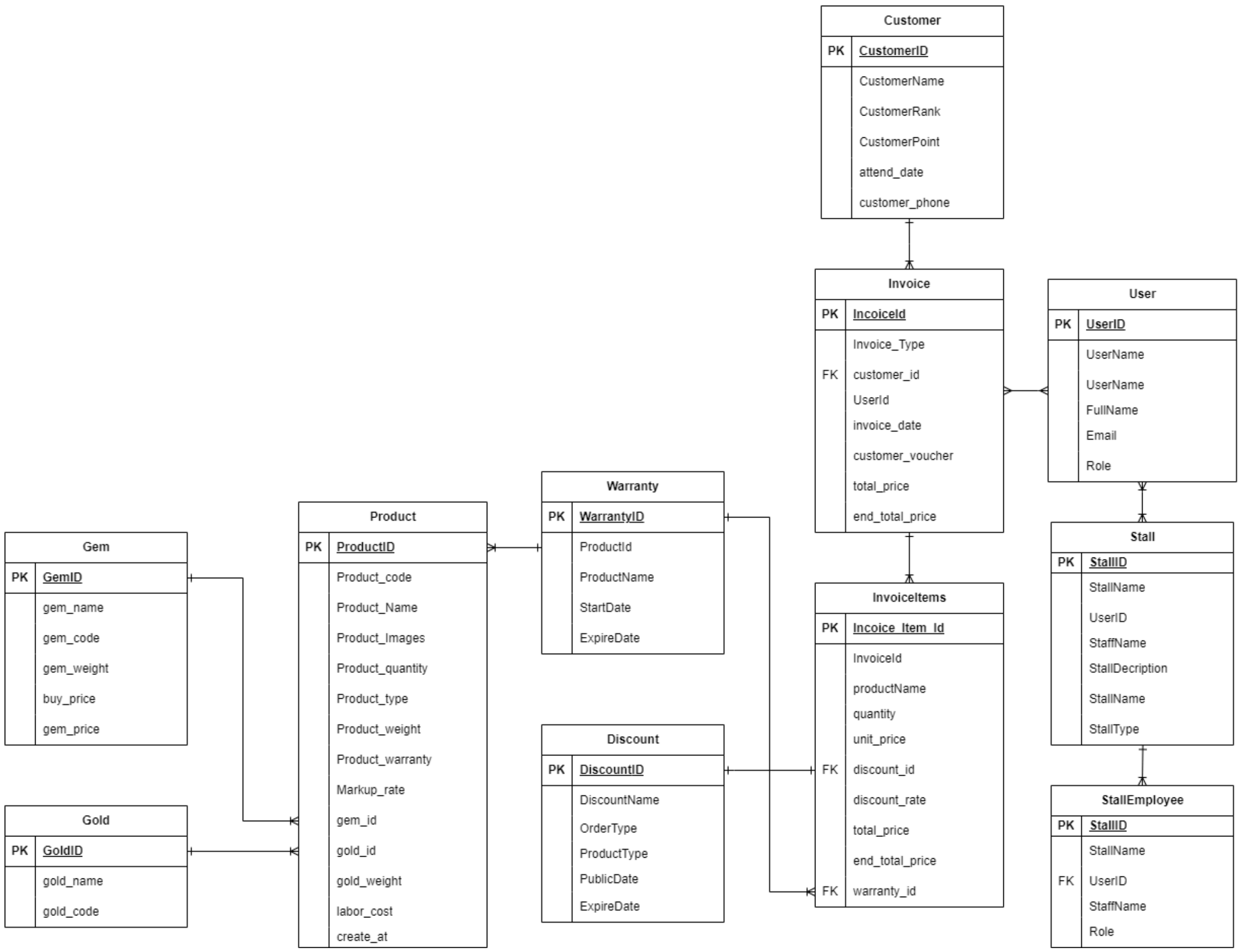
#	Feature	System Function	Description
1	<<Feature Name>>	<<Function Name1>>	<<Function Name1 Description>>
2	…		

3. System High Level Design

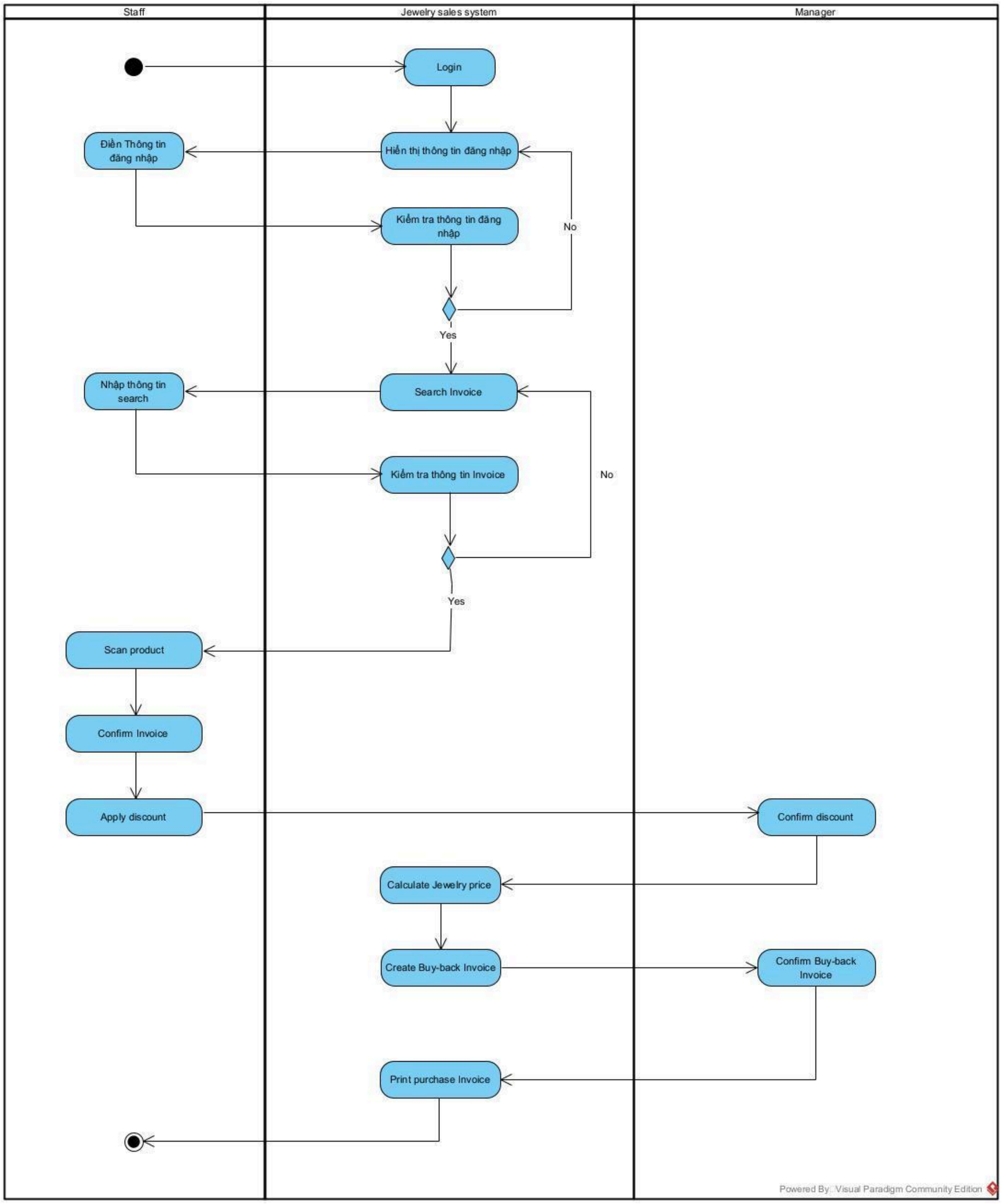
3.1 Database Design

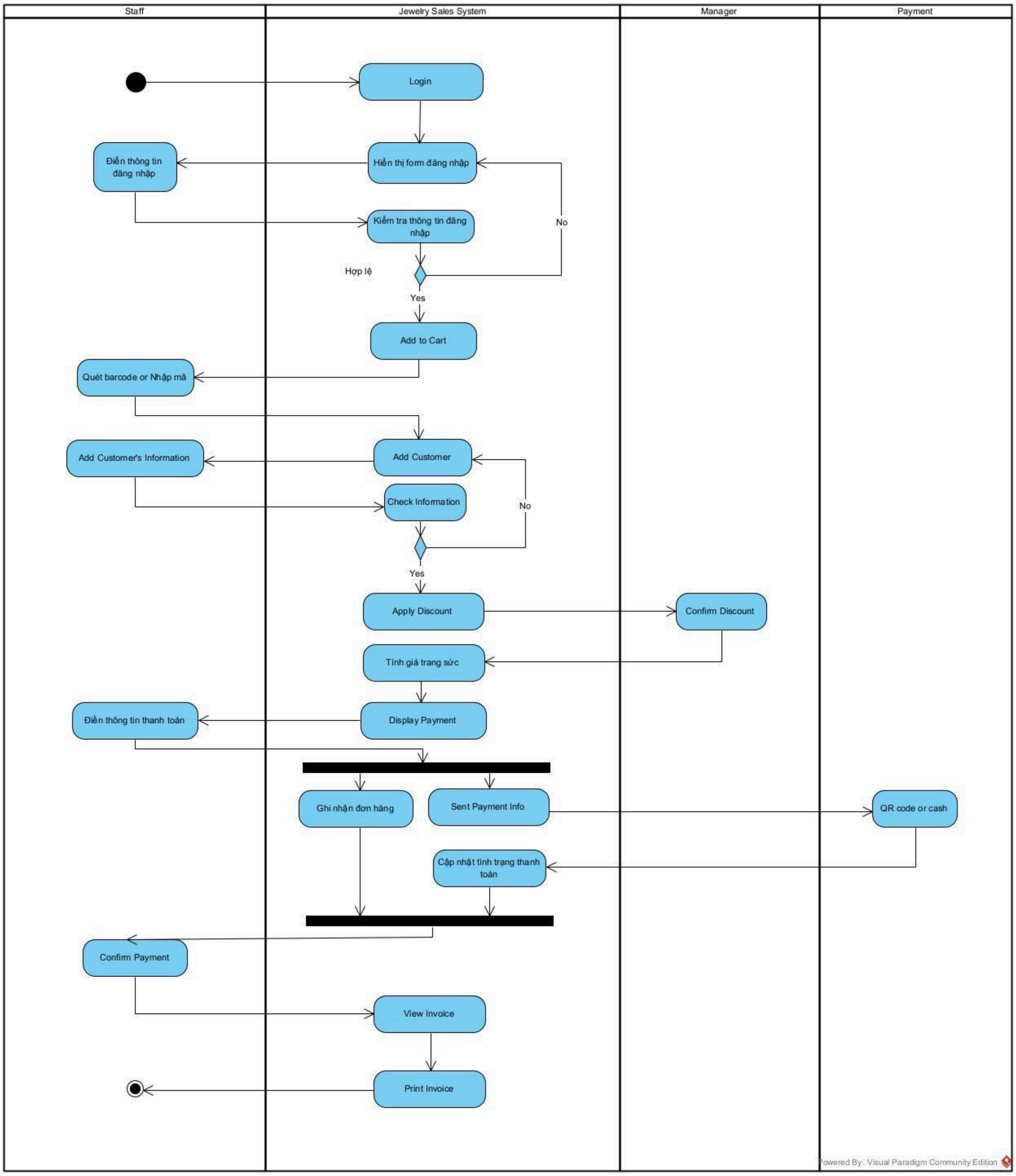
[Provide the tables relationship like example below]

a. Database Schema

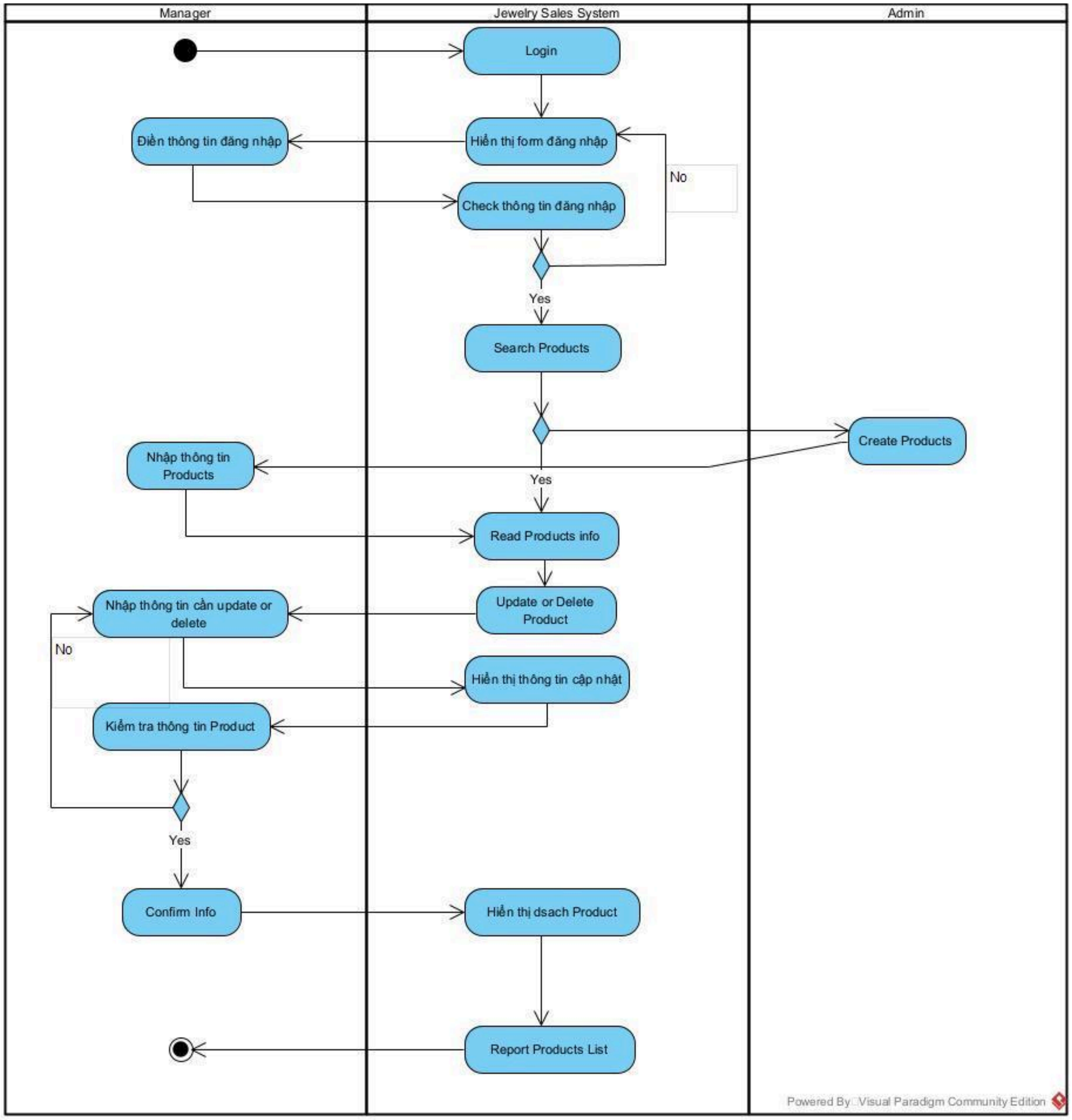


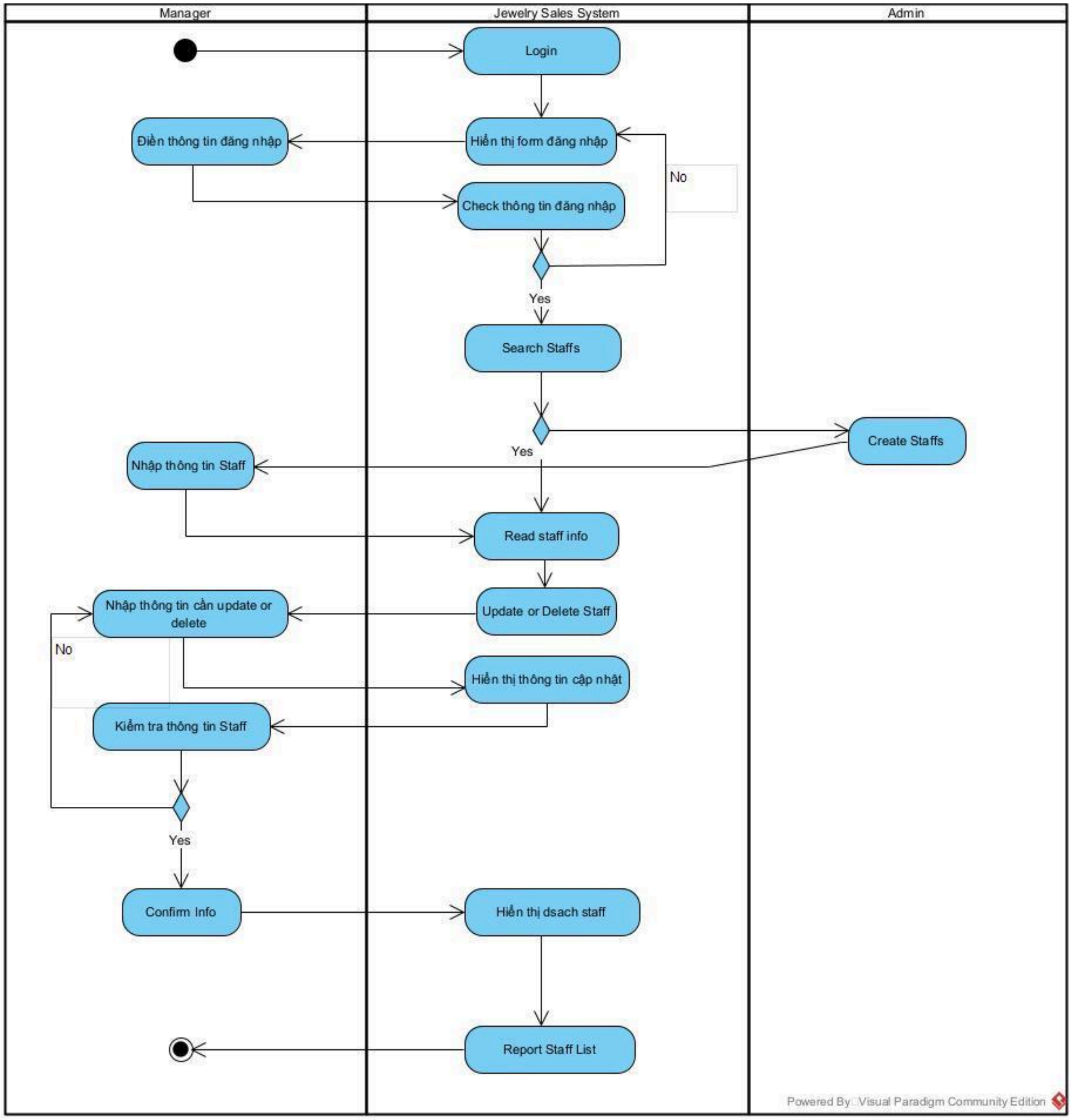
3.2 Main Flow


Staff
Jewelry sales system
Manager
Login
Điền Thông tin đăng nhập
Hiển thị thông tin đăng nhập
Kiểm tra thông tin đăng nhập
No
Yes
Nhập thông tin search
Search Invoice
Kiểm tra thông tin Invoice
No
Yes
Scan product
Confirm Invoice
Apply discount
Confirm discount
Calculate Jewelry price
Create Buy-back Invoice
Confirm Buy-back Invoice
Print purchase Invoice
Powered By: Visual Paradigm Community Edition



Staff
Jewelry Sales System
Manager
Payment
Login
Điền thông tin đăng nhập
Hiển thị form đăng nhập
Kiểm tra thông tin đăng nhập
No
Hợp lệ
Yes
Add to Cart
Quét barcode or Nhập mã
Add Customer's Information
Add Customer
Check Information
No
Yes
Apply Discount
Confirm Discount
Tính giá trang sức
Điền thông tin thanh toán
Display Payment
Ghi nhận đơn hàng
Sent Payment Info
QR code or cash
Cập nhật tình trạng thanh toán
Confirm Payment
View Invoice
Print Invoice
Powered By: Visual Paradigm Community Edition


Manager
Jewelry Sales System
Admin
Login
Điền thông tin đăng nhập
Hiển thị form đăng nhập
No
Check thông tin đăng nhập
Yes
Search Products
Create Products
Nhập thông tin Products
Yes
Read Products info
Nhập thông tin cần update or delete
Update or Delete Product
No
Hiển thị thông tin cập nhật
Kiểm tra thông tin Product
Yes
Confirm Info
Hiển thị dsach Product
Report Products List
Powered By Visual Paradigm Community Edition



Main flow descriptions

No	Package	Description
01	*Buy-Back*	*The flow Buy-back a product from customer*
02	*Sale*	*The flow sale product to customer*
03	*Manage products*	*The flow manages products in stalls*
04	*Manage Stalls*	*The flow manages stalls in store*

II. Requirement Specifications

1. <<Feature Name>>

1.1 <<UseCaseCode_UC Name>>

a. Functionalities

Provide the functional description for the use cases using the template/guides below

Functional Description Template

UC ID and Name:	**G01-Register**		
Created By:	Hoanv	Date Created:	None
Primary Actor:	Guest	Secondary Actors:	
Trigger:	Customer wants to create a new account		
Description:	The Register use case allows customers to create new accounts in the jewelry store sales management software. This enables customers to save their personal information, track purchase history, earn loyalty points, and receive personalized offers.		
Preconditions:	-The customer must have a valid email address. -The customer must create a unique password. -The customer must agree to the terms and conditions of the software.		
Postconditions:	-A new customer account is created in the system. -The customer receives a confirmation email. -The customer can log in to their account and start shopping.		
Normal Flow:	-The customer clicks on the "Register" button on the login page. -The customer enters their personal information, including name, email address, and password. -The customer reviews and agrees to the terms and conditions of the software. -The customer clicks on the "Create Account" button. -The system validates the customer's information and creates a new account. -The system sends a confirmation email to the customer. -The customer clicks on the confirmation link in the email. -The customer is logged in to their new account.		
Alternative Flows:	-Invalid email address: If the customer enters an invalid email address, the system displays an error message. -Password mismatch: If the customer's password does not match the confirmation password, the system displays an error message. -Terms and conditions not accepted: If the customer does not agree to the terms and conditions, the system prevents them from creating an account. -Email confirmation link not clicked: If the customer does not click on the confirmation link in the email, their account is not activated.		

Exceptions:	-System error: If there is a system error, the customer is unable to create an account. -Email delivery failure: If the system is unable to deliver the confirmation email, the customer is notified and instructed to contact customer support.
Priority:	Must Have
Frequency of Use:	High
Business Rules:	-Customer passwords must be at least 8 characters long and contain a mix of uppercase and lowercase letters, numbers, and symbols. -Customer email addresses must be unique. -Customers must agree to the terms and conditions of the software before creating an account.
Other Information:	-The system should store customer information securely. -The system should comply with all applicable data privacy laws.
Assumptions:	-The customer has a basic understanding of how to use a computer and the internet. -The customer has a valid email address. -The customer has a password that meets the system's requirements.

ID	Business Rule	Business Rule Description
FR4	**Registration Process**	**User must provide valid personal details (e.g., name, email, phone number, address) during registration.**
FR5	**Email Verification**	**User must verify their email address through a verification link sent to their email before the registration can be completed.**
FR6	**Password Requirements**	**User’s password must meet the following criteria: - At least 8 characters long - Contains at least one uppercase letter - Contains at least one lowercase letter - Contains at least one number - Contains at least one special character **
FR7	**Duplicate Account Check**	**System must check and prevent users from registering with an email address that has already been used for another account.**
FR8	**Terms and Conditions**	**User must agree to the terms and conditions before completing the registration.**
FR9	**Captcha Verification**	**User must complete a CAPTCHA verification to ensure they are not a bot during the registration process.**

<table>
<tr><td>UC ID and Name:</td><td colspan="3">G02_Login System</td></tr>
<tr><td>Created By:</td><td>Hoanv</td><td>Date Created:</td><td></td></tr>
<tr><td>Primary Actor:</td><td>Guest</td><td>Secondary Actors:</td><td></td></tr>
<tr><td>Trigger:</td><td colspan="3">Guest wants to browse the jewelry store's products and services</td></tr>
<tr><td>Description:</td><td colspan="3">The Login - Guest use case allows guests to access the jewelry store's website without creating an account. This enables guests to view product information, browse categories, and use the search functionality.</td></tr>
<tr><td>Preconditions:</td><td colspan="3">User account has been created & authorized</td></tr>
<tr><td>Postconditions:</td><td colspan="3">• User logs in the system successfully
• The system tracked successful login into the Activity Log</td></tr>
<tr><td>Normal Flow</td><td colspan="3">2.0 Login System
1. User accesses the User Login screen
2. User types in the login details or choo other login options (see 2.1 and 2.2)
3. User clicks the Login button
4. System validates the login details (see 2.0.E1)
5. System allows user to access
6. System tracks user’s success login to the Activity Log
7. System accesses the Home Page (or the previous calling page if any)</td></tr>
<tr><td>Alternative Flows:</td><td colspan="3">2.1 Google Login
1. User chooses to login system using Google account
2. System redirects the user to the Google’s Login screen
3. User types in the Google account details and chooses to login
4. Google validates user’s login information successfully and redirect him/her back to the system
5. Return to step 5 of normal flow.

2.2 Username Login
1. User chooses to login system using Username account
2. System redirects the user to the Username Login screen
3. User types in the Username account details and chooses to login
4. Username validates user’s login information successfully and redirect him/her back to the system
5. Return to step 5 of normal flow.</td></tr>
<tr><td>Exceptions:</td><td colspan="3">2.0.E1 System can’t authenticate the user
1. The Error Message screen is shown to the user
2. User cancels the logging in => UC stops, change to UC-1_View Home Page</td></tr>
</table>

	3. User clicks “Forgot Password?” link *=> change to UC-3_Reset Password* 4. User clicks “Register” link *=> change to UC-4_Register User Account*
Priority:	Must Have
Frequency of Use:	High
Business Rules:	-Guest users are not able to create or manage customer accounts. -Guest users are not able to make purchases. -Guest users are not able to save their shopping carts.
Other Information:	-The system should store guest login information securely. -The system should comply with all applicable data privacy laws.
Assumptions:	-The guest has a basic understanding of how to use a computer and the internet.

ID	Business Rule	Business Rule Description
FR10	**Secure Login**	**User’s login credentials must be transmitted securely using HTTPS.**
FR11	**Password Encryption**	**User’s password must be encrypted before being stored in the database using a secure hashing algorithm (e.g., bcrypt).**
FR12	**Multi-Factor Authentication**	**User must be prompted for multi-factor authentication (MFA) if logging in from an unrecognized device or location.**
FR13	**Login Attempts Limit**	**User’s account will be temporarily locked after 6 consecutive failed login attempts within 30 minutes.**
FR14	**Account Unlock**	**User can unlock their account through a password reset link sent to their registered email address or by contacting customer support.**
FR15	**Session Management**	**User will be automatically logged out after 30 minutes of inactivity.**
FR16	**Login Notification**	**User will receive an email notification upon successful login, including information about the device and location from which the login occurred.**

UC ID and Name:	**G03-Read Gold's Price**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Varies (Guest, Cashier, Sales, Manager, Admin)	Secondary Actors:	System
Trigger:	Actor needs to know the current price of gold		
Description:	This use case describes how various actors (Guest, Cashier, Sales, Manager, Admin) can access and view the current price of gold within the jewelry store sales management software.		
Preconditions:	The system is operational and has access to a reliable gold price data source.		
Postconditions:	The actor successfully retrieves and views the current price of gold.		
Normal Flow:	1. The actor navigates to the designated section within the software to view gold prices (may vary depending on actor role). -Guest: May have a dedicated "Gold Price" section on the public website. -Cashier, Sales, Manager, Admin: Likely have access through a dashboard or dedicated menu option. 2. The system retrieves the current gold price from the data source. 3. The system displays the current gold price to the actor.		
Alternative Flows:	-Data source unavailable: If the system cannot access the gold price data source, an error message is displayed to the actor. -Limited access: Guests may only see a basic gold price (e.g., per gram), while staff may have access to more detailed information (e.g., different karat varieties, price history).		
Exceptions:	-System error: If there is a system error, the actor may not be able to view the gold price.		
Priority:	-Must have		
Frequency of Use:	-Guest: Occasional -Cashier, Sales: Frequent -Manager: Regular -Admin: As needed		
Business Rules:			
Other Information:	-Required Access Levels: +Guest: Read-only access to basic gold price information. +Cashier: Read-only access to relevant gold price information for sales calculations.		

	+Sales: Read-only access to relevant gold price information for sales calculations. +Manager: Read-only access to detailed gold price information for decision-making. +Admin: Read-only and potentially write access (for managing data source configuration) to gold price information.
Assumptions:	-The system has a reliable mechanism for retrieving and updating gold prices. Actors understand how to navigate the software to access the gold price information.

ID	Business Rule	Business Rule Description
FR17	**Real-time Price Update**	**The system must fetch and update gold prices in real-time from a reliable external source.**
FR18	**Price Display**	**Gold prices must be displayed on the website and mobile app in an easily accessible and understandable format.**
FR19	**Historical Data**	**Users should be able to view historical gold price data for analysis and comparison.**
FR20	**Currency Conversion**	**Gold prices should be displayed in multiple currencies, based on the user's location or preference, using up-to-date exchange rates.**
FR21	**Notification System**	**Users can opt-in to receive notifications about significant changes in gold prices through email or SMS.**

UC ID and Name:	**CA01-Create Order**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Cashier	Secondary Actors:	None
Trigger:	Customer wants to purchase jewelry items		
Description:	The Create Order - Cashier use case allows cashiers to create new sales orders for customers in the jewelry store sales management software.		

	This involves selecting items, adding them to the cart, applying discounts, calculating totals, and processing payments.
Preconditions:	-The cashier is logged in to the software. -The customer is present at the counter. -The customer has selected the jewelry items they wish to purchase.
Postconditions:	-A new sales order is created in the system. -The customer receives a sales invoice. -The inventory levels are updated.
Normal Flow:	1.The cashier scans or manually enters the product codes of the selected jewelry items. 2.The system retrieves the product information and displays it to the cashier. 3.The cashier verifies the product details and quantities. 4.The cashier applies any applicable discounts or promotions. 5.The system calculates the total order amount, including taxes and fees. 6.The cashier presents the total amount to the customer. 7.The customer makes the payment. 8.The system processes the payment. 9.The system generates a sales invoice and prints it for the customer. 10.The system updates the inventory levels for the sold items.
Alternative Flows:	-Out-of-stock items: If an item is out of stock, the system informs the cashier and allows them to adjust the quantity or suggest alternative items. -Customer changes order: If the customer decides to add or remove items from the order, the cashier can modify the cart accordingly. -Payment issues: If there are any payment issues, the cashier can retry the payment or offer alternative payment methods.
Exceptions:	-System error: If there is a system error, the cashier may not be able to complete the order. -Inventory data discrepancy: If there is a discrepancy between the system's inventory data and the actual stock levels, the cashier may need to verify the inventory or consult with a manager.
Priority:	Must Have
Frequency of Use:	High
Business Rules:	-Cashiers must have the necessary permissions to create and manage sales orders. -Sales orders must include accurate product information, quantities, and pricing. -Discounts and promotions must be applied according to the defined rules and policies. -Payments must be processed securely and in accordance with the store's payment policies. -Sales invoices must be accurate and include all relevant information.

	-Inventory updates must be reflected accurately in the system.
Other Information:	-The system should provide clear and user-friendly interfaces for cashiers to create and manage sales orders. -The system should ensure data integrity and prevent unauthorized access or modifications. -The system should generate detailed reports and analytics for sales data.
Assumptions:	-The cashier has been trained on the software and is familiar with the sales order process. -The customer has a valid payment method. -The network connection is stable.

ID	Business Rule	Business Rule Description
FR35	**Product Selection**	**Users must be able to browse and select products to add to their order, with real-time availability and pricing information.**
FR36	**Customer Information**	**Users must provide necessary customer information (e.g., name, address, contact details) to complete the order.**
FR37	**Payment Options**	**Users must have multiple payment options (e.g., credit card, PayPal, bank transfer) to complete the order.**
FR38	**Order Review**	**Users must be able to review their order details, including products, quantities, prices, and shipping information, before finalizing the purchase.**
FR39	**Order Confirmation**	**Upon successful payment, users must receive an order confirmation with a unique order number and order details via email and/or SMS.**
FR40	**Inventory Update**	**System must update product inventory in real-time upon successful order creation to reflect the new stock levels.**
FR41	**Shipping and Delivery**	**Users must be able to choose shipping options and see estimated delivery times based on their location and selected shipping method.**
FR42	**Order Tracking**	**Users must receive tracking information for their order, allowing them to monitor the status and location of their shipment.**
FR43	**Order History**	**Users must be able to view their past orders, including order details and status, within their account on the website or mobile app.**

FR44	**Order Cancellation**	**Users must be able to cancel their order within a specified timeframe before the order is shipped, subject to cancellation policies.**

UC ID and Name:	**AU-01: Logout**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Varies (Cashier, Sales, Admin, Manager)	Secondary Actors:	None
Trigger:	Actor wants to end their current session and log out of the jewelry store sales management software		
Description:	This use case describes how various actors (Cashier, Sales, Admin, Manager) can securely log out of their active sessions within the jewelry store sales management software.		
Preconditions:	The actor is currently logged in to the software.		
Postconditions:	-The actor is successfully logged out of the software. -The actor's session is terminated. -Any open or unfinished tasks are saved appropriately (if applicable).		
Normal Flow:	1.The actor initiates the logout process by clicking on the designated "Logout" button or option within the software. 2.The system prompts the actor to confirm their intention to log out. 3.The actor confirms the logout request. 4.The system invalidates the actor's active session token and clears any cached or temporary data associated with their session. 5.The system redirects the actor to the login page or a neutral exit point.		
Alternative Flows:	-Accidental logout: If the actor accidentally clicks the logout button, they can cancel the logout by clicking on a "Cancel" or "Back" button (if available). -Session timeout: If the actor's session expires due to inactivity, the system automatically logs them out and displays a notification.		
Exceptions:	-System error: If there is a system error, the actor may not be able to log out properly. -Network interruption: If the network connection is lost during the logout process, the actor may need to restart the software and attempt to log out again.		
Priority:	Must Have		
Frequency of Use:	-Cashier, Sales: Frequent throughout their work shifts. -Admin, Manager: Depends on their usage patterns and session durations.		

Business Rules:	-Data Security: During the logout process, the system should ensure that any sensitive user data or session information is properly cleared and not retained.
Other Information:	Required Access Levels: -Cashier: Basic logout access to end their active sales session. -Sales: Basic logout access to end their active sales session. -Admin: Basic logout access to end their active administrative session. -Manager: Basic logout access to end their active managerial session.
Assumptions:	-The system has a reliable mechanism for managing user sessions and implementing secure logout procedures. -Actors understand how to initiate and complete the logout process.

ID	Business Rule	Business Rule Description
FR22	**User-initiated Logout**	**Users must be able to log out from their account at any time through a clearly visible logout option in the user interface.**
FR23	**Session Expiration**	**User sessions must expire after a specified period of inactivity (e.g., 30 minutes) to ensure security.**
FR24	**Logout Confirmation**	**Upon logging out, the system should display a confirmation message to ensure the user is aware they have successfully logged out.**
FR25	**Secure Logout Process**	**All user session data must be securely cleared from the client side and server side upon logout to prevent unauthorized access.**
FR26	**Multi-device Logout**	**Users must have the option to log out from all devices simultaneously from any device or through their account settings.**

UC ID and Name:	**AU02-Manage Report**		
Created By:	Hoanv	Date Created:	

Primary Actor:	Varies (Cashier, Sales, Admin, Manager)	Secondary Actors:	None
Trigger:	Actor needs to access, generate, view, and analyze reports related to sales, inventory, customer data, or other aspects of the jewelry store's business		
Description:	This use case describes how various actors (Cashier, Sales, Admin, Manager) can utilize the reporting functionality within the jewelry store sales management software to gain insights into sales performance, inventory levels, customer trends, and other key business metrics.		
Preconditions:	-The actor is logged in to the software with the appropriate access level. -The software has generated and stored relevant data from sales transactions, inventory movements, customer interactions, and other sources.		
Postconditions:	-The actor successfully accesses, generates, views, and analyzes the desired reports. -The actor gains valuable insights from the report data. -The actor can utilize the report findings to make informed business decisions or take corrective actions.		
Normal Flow:	1.The actor navigates to the designated reports section within the software. 2.The actor selects the type of report they want to view or generate (e.g., sales report, inventory report, customer report). 3.The actor specifies any relevant filters or parameters for the report (e.g., date range, product categories, customer segments). 4.The system generates the requested report. 5.The actor reviews the report data, which may be presented in tabular, graphical, or other formats. 6.The actor can export the report for further analysis or sharing.		
Alternative Flows:	-Predefined reports: The software may provide a selection of predefined reports that cater to common use cases. -Customizable reports: The software may allow for creating custom reports with user-defined filters and parameters. -Scheduled reports: The software may offer options to schedule reports for automatic generation and delivery.		
Exceptions:	-Data availability: If the required data is not available or has not been generated, the system may display an appropriate message. -Report generation error: If there is an error during report generation, the system may notify the actor and provide error details. -Access restrictions: Actors may only be able to access and generate reports within their authorized scope based on their user roles.		
Priority:	Must Have		
Frequency of Use:	-Cashier: Regularly to review daily or weekly sales performance.		

	-Sales: Regularly to track sales trends and performance within their department. -Admin: Regularly to monitor overall sales performance, inventory levels, and customer data. -Manager: Regularly to review reports for their specific managerial areas (e.g., sales, inventory, customer relations).
Business Rules:	-Data Visualization: The software should provide effective data visualization tools to enhance the presentation and comprehension of report data. -Data Export: The software should allow for exporting reports in various formats (e.g., PDF, CSV, Excel) for further analysis or sharing.
Other Information:	Required Access Levels: -Cashier: Basic access to view predefined sales reports for their assigned counter or period. -Sales: Access to view and generate sales reports for their assigned department or period. -Admin: Comprehensive access to view, generate, and customize reports across all departments and periods. -Manager: Access to view, generate, and customize reports relevant to their managerial responsibilities.
Assumptions:	-The software has a robust reporting module capable of generating a variety of reports. -The actor has a basic understanding of data analysis and interpretation. -The actor is familiar with the software's reporting interface and functionalities.

ID	Business Rule	Business Rule Description
FR35	**Product Selection**	**Users must be able to browse and select products to add to their order, with real-time availability and pricing information.**
FR36	**Customer Information**	**Users must provide necessary customer information (e.g., name, address, contact details) to complete the order.**
FR37	**Payment Options**	**Users must have multiple payment options (e.g., credit card, PayPal, bank transfer) to complete the order.**

FR38	**Order Review**	**Users must be able to review their order details, including products, quantities, prices, and shipping information, before finalizing the purchase.**
FR39	**Order Confirmation**	**Upon successful payment, users must receive an order confirmation with a unique order number and order details via email and/or SMS.**
FR40	**Inventory Update**	**System must update product inventory in real-time upon successful order creation to reflect the new stock levels.**
FR41	**Shipping and Delivery**	**Users must be able to choose shipping options and see estimated delivery times based on their location and selected shipping method.**
FR42	**Order Tracking**	**Users must receive tracking information for their order, allowing them to monitor the status and location of their shipment.**

UC ID and Name:	**AU-03:Manage Personal Information**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Varies (Cashier, Sales, Admin, Manager)	Secondary Actors:	None
Trigger:	Actor needs to access, view, update, or manage their own personal information or the personal information of other users (within their authorized scope)		
Description:	This use case describes how various actors (Cashier, Sales, Admin, Manager) can utilize the personal information management features within the jewelry store sales management software to maintain accurate and up-to-date employee and customer records.		
Preconditions:	-The actor is logged in to the software with the appropriate access level. -The software has a secure mechanism for storing and managing personal information.		
Postconditions:	-The actor successfully accesses, views, updates, or manages the desired personal information. -The personal information is accurate, complete, and up-to-date. -Data privacy and security are maintained throughout the process.		
Normal Flow For Cashier:	1.The cashier navigates to the designated "My Profile" or "Personal Information" section within the software. 2.The cashier views their own personal information, including contact details, emergency contacts, and other relevant data. 3.The cashier can update their personal information if necessary. 4.The system saves the updated information securely.		

Normal Flow For Sales:	1.The sales associate navigates to the "Employee Management" section within the software. 2.The sales associate selects the employee whose personal information they need to access. 3.The sales associate views the employee's personal information, including contact details, emergency contacts, employment history, and other relevant data. 4.The sales associate can update the employee's personal information if necessary, subject to their access permissions. 5.The system saves the updated information securely.
Normal Flow For Admin:	1.The administrator navigates to the "User Management" section within the software. 2.The administrator selects the user whose personal information they need to access. 3.The administrator views the user's personal information, including contact details, emergency contacts, user roles, and other relevant data. 4.The administrator can update the user's personal information if necessary. 5.The administrator can manage the user's access permissions and roles. 6.The system saves the updated information securely.
Normal Flow For Manager:	1.The manager navigates to the "Employee Management" section within the software. 2.The manager selects the employee whose personal information they need to access. 3.The manager views the employee's personal information, including contact details, emergency contacts, employment history, and other relevant data. 4.The manager can update the employee's personal information if necessary, subject to their access permissions. 5.The manager can review the employee's performance history and other related data. 6.The system saves the updated information securely.
Alternative Flows:	-Customer personal information: Admin and Manager may also have access to manage customer personal information, adhering to data privacy regulations and customer consent. -Data validation: The system should implement data validation checks to ensure the accuracy and completeness of personal information. -Change history: The system should maintain a record of changes made to personal information, including who made the changes and when.
Exceptions:	-Access restrictions: Actors may only be able to access, view, update, or manage personal information within their authorized scope based on their user roles.

	-Data privacy regulations: The software must comply with applicable data privacy regulations, such as GDPR, CCPA, and others. -Data security: The software must implement appropriate security measures to protect sensitive personal information from unauthorized access, modification, or disclosure.
Priority:	Must Have
Frequency of Use:	-Cashier: Occasionally to update their personal information. -Sales: Regularly to view and update employee personal information for various purposes (e.g., payroll, performance reviews). -Admin: Regularly to manage user accounts, update personal information, and ensure data accuracy. -Manager: Regularly to review employee personal information and performance data.
Business Rules:	
Other Information:	Required Access Levels: -Cashier: Basic access to view and update their own personal information. -Sales: Access to view and update employee personal information within their department. -Admin: Comprehensive access to view, update, and manage all user (employee and customer) personal information. -Manager: Access to view, update, and manage employee personal information within their team or department.
Assumptions:	-The actor has a basic understanding of data privacy principles and the importance of protecting personal information. -The actor is familiar with the software's personal information management features.

ID	Business Rule	Business Rule Description
FR45	**View Personal Information**	**Users must be able to view their personal information (e.g., name, email, phone number, address) from their account settings.**
FR46	**Update Personal Information**	**Users must be able to update their personal information from their account settings, with changes reflected immediately in the system.**

FR47	**Password Change**	**Users must be able to change their account password, with a requirement to enter the current password for verification.**
FR48	**Email Verification for Changes**	**Users must verify any changes to their email address by confirming a verification link sent to the new email address.**
FR49	**Security Questions**	**Users must be able to set and update security questions and answers for account recovery purposes.**
FR50	**Two-Factor Authentication**	**Users must have the option to enable or disable two-factor authentication (2FA) for an added layer of account security.**
FR51	**Privacy Settings**	**Users must be able to manage their privacy settings, including opting in or out of marketing communications and data sharing preferences.**
FR52	**Account Deactivation**	**Users must be able to deactivate their account, with an option to reactivate it later, retaining all personal and transactional data.**
FR53	**Data Deletion Request**	**Users must be able to request the deletion of their personal data in compliance with applicable data protection regulations (e.g., GDPR, CCPA).**
FR54	**Activity Log**	**Users must be able to view a log of their account activities, including logins, updates to personal information, and password changes.**

UC ID and Name:	**AU-04: Read Product**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Varies (Cashier, Sales, Admin, Manager)	Secondary Actors:	None
Trigger:	Actor needs to access and view information about products in the jewelry store's inventory		
Description:	This use case describes how various actors (Cashier, Sales, Manager, Admin) can utilize the product management features within the jewelry store sales management software to access, view, and understand detailed information about the products available for sale.		
Preconditions:	-The actor is logged in to the software with the appropriate access level. -The software has a comprehensive product database containing accurate and up-to-date product information.		

Postconditions:	-The actor successfully accesses, views, and understands the desired product information. -The actor can utilize the product information to make informed decisions, provide accurate customer information, or manage inventory effectively.
Normal Flow for Cashier:	1.The cashier navigates to the "Products" or "Inventory" section within the software. 2.The cashier can browse the product catalog using various filters (e.g., category, brand, price range). 3.The cashier selects a specific product to view its detailed information, including: ● Product ID ● Product Name ● Product Description ● Product Image(s) ● Product Category ● Product Brand ● Product Price ● Product Quantity in Stock ● Other relevant product specifications (e.g., material, size, weight) 4.The cashier can use the product information to assist customers with inquiries, sales transactions, or product recommendations.
Normal Flow for Sales:	1.The sales associate navigates to the "Products" or "Inventory" section within the software. 2.The sales associate can browse the product catalog using various filters (e.g., category, brand, price range, customer preferences). 3.The sales associate selects a specific product to view its detailed information, including: ● Product ID ● Product Name ● Product Description ● Product Image(s) ● Product Category ● Product Brand ● Product Price ● Product Quantity in Stock ● Other relevant product specifications (e.g., material, size, weight)

	4.The sales associate can use the product information to provide customers with detailed product knowledge, answer their questions, and guide them towards informed purchasing decisions. 5.The sales associate can also utilize the product information to identify upselling or cross-selling opportunities.
Normal Flow for Manager:	1.The manager navigates to the "Products" or "Inventory" section within the software. 2.The manager can browse the product catalog using various filters (e.g., category, brand, price range, sales performance). 3.The manager selects a specific product to view its detailed information, including: ● Product ID ● Product Name ● Product Description ● Product Image(s) ● Product Category ● Product Brand ● Product Price ● Product Quantity in Stock ● Sales History (e.g., units sold, revenue generated) ● Profit Margin ● Other relevant product metrics 4.The manager can use the comprehensive product information to: ● Analyze sales trends and identify popular or underperforming products. ● Make informed decisions regarding product assortment, pricing, and promotions. ● Optimize inventory levels to minimize stockouts and overstocking. ● Identify opportunities for product improvement or new product development.
Normal Flow for Admin:	1.The administrator navigates to the "Products" or "Inventory" section within the software. 2.The administrator has full access to all product information, including the ability to: ● Create new product entries ● Edit existing product information ● Upload product images ● Manage product categories and brands ● Set product prices and quantities

	● Track product sales history and performance metrics ● Generate product reports for analysis and decision-making 3.The administrator can utilize their comprehensive product management capabilities to: ● Ensure the accuracy and completeness of product information in the system. ● Maintain an organized and up-to-date product database. ● Support the overall product strategy and profitability of the jewelry store.
Alternative Flows:	-AF1: If the user does not enter a product name or product code into the search box, the system will display a list of all products in the system. -AF2: If the user enters a product name or product code that does not exist in the system, the system will display a product not found message.
Exceptions:	-E1: If the system encounters a technical error, the user will be notified of the error and asked to try again later.
Priority:	High
Frequency of Use:	Often
Business Rules:	-Only Cashier, Sales, Manager, and Admin actors are allowed to view product information. -Users can only view product information, they cannot edit product information. Product information displayed in the system must be accurate and up-to-date.
Other Information:	-This use case can be extended to support additional features such as viewing product price history, and comparing product prices, ...
Assumptions:	-System Access: Users have valid accounts and permissions to access product information within the jewelry sales management system. -Product Data: All products are entered into the system with accurate and up-to-date information. -Search Functionality: The system allows searching for products by name, code, or other relevant criteria. -User Interface: Users can easily navigate and understand the product information displayed within the system.

ID	Business Rule	Business Rule Description
FR55	**Product Details**	**Users must be able to view detailed information about each product, including name, description, specifications, price, and availability.**
FR56	**Product Images**	**Users must be able to view multiple high-quality images of each product from different angles.**
FR57	**Customer Reviews**	**Users must be able to read customer reviews and ratings for each product to make informed purchasing decisions.**
FR58	**Related Products**	**System must display related or recommended products based on the current product being viewed.**
FR59	**Stock Availability**	**Users must be able to see real-time stock availability for each product.**
FR60	**Price History**	**Users must be able to view the price history of each product to understand its price trends over time.**
FR61	**Product Categories**	**Users must be able to browse and filter products by categories, such as type, brand, and price range.**
FR62	**Add to Wishlist**	**Users must be able to add products to a wishlist for future reference or purchase.**
FR63	**Product Specifications**	**Users must be able to view detailed product specifications, including materials, dimensions, and other relevant attributes.**
FR64	**Product Search**	**Users must be able to search for products using keywords, filters, and sorting options to quickly find the products they are interested in.**

UC ID and Name:	**AU-05: Read Policy**		
Created By:		Date Created:	
Primary Actor:	Varies (Cashier, Sales, Admin, Manager)	Secondary Actors:	None
Trigger:	-Users need to access and review company policies and procedures. -New employees need to be informed of company policies during onboarding.		

	-Managers need to ensure employees are adhering to company policies. -Admin may need to update or modify company policies.
Description:	-This use case describes the process of reading and accessing company policies and procedures for the Cashier, Sales, Manager, and Admin actors within the jewelry sales management system.
Preconditions:	-The jewelry sales management system must be started and running normally. -The user must log in to the system with a valid account. -Company policies and procedures must be uploaded and stored in the system.
Postconditions:	-Users can access and read the latest version of company policies and procedures. -Users can search for specific policies by keyword or category. -Users can understand and comply with company policies and procedures.
Normal Flow:	-Step 1: The user accesses the policy management module within the jewelry sales management system. -Step 2: The system displays a list of available company policies and procedures. -Step 3: The user selects the policy they want to read. -Step 4: The system displays the selected policy in an easy-to-read format. -Step 5: The user can print or save the policy for future reference.
Alternative Flows:	AF1: If the user does not have access to the policy management module, they will be notified and redirected to the appropriate authority. AF2: If the user searches for a policy that does not exist in the system, they will be notified and provided with instructions on how to request the policy.
Exceptions:	E1: If the system encounters a technical error, the user will be notified and asked to try again later.
Priority:	High
Frequency of Use:	Often
Business Rules:	-All employees must be familiar with and comply with company policies and procedures. -Company policies and procedures must be reviewed and updated regularly. -New employees must be trained on company policies and procedures during onboarding. -Managers are responsible for ensuring that their team members are adhering to company policies and procedures. -Admin has the authority to create, update, and delete company policies and procedures.

Other Information:	-The system can be integrated with other HR modules, such as training and performance management, to ensure that policies are embedded within employee workflows. -The system can be configured to send notifications to users when there are changes to company policies and procedures.
Assumptions:	-Policy Availability: All relevant company policies and procedures are uploaded and readily accessible within the jewelry sales management system. -User Permissions: User accounts have appropriate permissions assigned to access and view company policies based on their roles (Cashier, Sales, Manager, Admin). -User Knowledge: Users have basic computer literacy and understanding of navigating within the system to locate the policy management module.

ID	Business Rule	Business Rule Description
RP1	**Read Access Control**	**Users must have the appropriate permissions to access the read-only data.**
RP2	**Data Visibility**	**Only users with verified accounts can access sensitive read-only data.**
RP3	**Data Encryption**	**All data accessed must be encrypted during transmission to ensure privacy.**
RP4	**Access Logs**	**Read access to data must be logged with user identification and timestamp.**
RP5	**Access Limitations**	**Users can only view data that they are authorized to see based on their role.**

UC ID and Name:	**SA-01:Manage Customer**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Sales	Secondary Actors:	None
Trigger:	-Sales need to create, update, or view customer information. -Sales need to track customer interactions and purchase history. -Sales need to manage customer relationships and provide personalized service.		

Description:	-This use case describes the process of managing customer information, interactions, and relationships for the Sales actor within the jewelry sales management system.
Preconditions:	-The jewelry sales management system must be started and running normally. -The Sales user must log in to the system with a valid account. -The customer profile must be created or already exist in the system.
Postconditions:	-Customer information is accurate, up-to-date, and accessible to authorized personnel. -Customer interactions and purchase history are tracked and maintained within the system. -Customer relationships are nurtured and strengthened through personalized interactions.
Normal Flow:	Step 1: The Sales user accesses the customer management module within the jewelry sales management system. Step 2: The system displays a list of existing customer profiles. Step 3: The Sales user can search for a specific customer by name, contact information, or other relevant criteria. Step 4: If the customer profile does not exist, the Sales user can create a new customer profile. Step 5: The Sales user can view and update customer information, including contact details, purchase history, preferences, and notes. Step 6: The Sales user can record customer interactions, such as phone calls, emails, or in-person meetings. Step 7: The Sales user can view and analyze customer purchase history to identify trends and preferences. Step 8: The Sales user can utilize customer information and insights to provide personalized service and recommendations.
Alternative Flows:	AF1: If the Sales user does not have access to the customer management module, they will be notified and redirected to the appropriate authority. AF2: If the Sales user searches for a customer that does not exist in the system, they will be notified and provided with instructions on how to create a new customer profile.
Exceptions:	E1: If the system encounters a technical error, the Sales user will be notified and asked to try again later.
Priority:	High
Frequency of Use:	Often
Business Rules:	-Customer information must be accurate, up-to-date, and secure. -Customer interactions and purchase history must be tracked and maintained for future reference. -Sales personnel must strive to build and maintain positive customer relationships.

	-Customer information must be used ethically and in compliance with data privacy regulations.
Other Information:	-The system can be integrated with other CRM tools, such as marketing automation or customer support platforms, to provide a holistic view of customer interactions. -The system can be customized to generate reports and insights on customer behavior, sales performance, and customer satisfaction.
Assumptions:	-System Access: Sales users have the necessary permissions to access and manage customer information within the jewelry sales management system. -Data Accuracy: Sales personnel are responsible for entering and maintaining accurate and up-to-date customer information within the system. -Integration Potential: The system can potentially integrate with other CRM tools for a more comprehensive customer relationship management experience.

ID	Business Rule	Business Rule Description
MC1	**Customer Account Creation**	**New customer accounts must be created with a unique identifier and initial verification.**
MC2	**Customer Data Update**	**Customer information can only be updated by authorized personnel and must be validated.**
MC3	**Account Deactivation**	**Customer accounts can be deactivated upon request or due to inactivity for a specified period.**
MC4	**Data Access Control**	**Only authorized users can access or modify customer data based on their role and permissions.**
MC5	**Record Retention**	**Customer data must be retained for a specified period and securely archived according to legal and regulatory requirements.**
MC6	**Customer Feedback Handling**	**Customer feedback must be collected, reviewed, and acted upon in a timely manner.**

UC ID and Name:	**SA-02: Manage Customer's Point**		
Created By:	Hoanv	Date Created:	

Primary Actor:	Sales	Secondary Actors:	None
Trigger:	-Sales need to add, redeem, or track customer loyalty points. -Sales need to provide information about the loyalty program to customers.		
Description:	-This use case describes the process of managing customer loyalty points for the Sales actor within the jewelry sales management system.		
Preconditions:	-The jewelry sales management system must be started and running normally. -The Sales user must log in to the system with a valid account. -The customer must be enrolled in the loyalty program and have an active account. -The loyalty program rules and point values are defined and configured within the system.		
Postconditions:	-Customer loyalty points are accurately tracked and updated in the system. -Customer loyalty points are redeemed in accordance with program rules. -Customers are informed about their point balance and loyalty program benefits.		
Normal Flow:	Step 1: The Sales user accesses the customer's profile within the jewelry sales management system. Step 2: The system displays the customer's loyalty point balance and transaction history. Step 3: The Sales user can add loyalty points to the customer's account based on eligible purchases or promotions. Step 4: The Sales user can redeem loyalty points for the customer according to the program rules, such as discounts or rewards. Step 5: The system automatically updates the customer's point balance and transaction history. Step 6: The Sales user can provide information about the loyalty program to the customer, such as benefits, earning opportunities, and redemption options.		
Alternative Flows:	AF1: If the customer is not enrolled in the loyalty program, the Sales user can guide them through the enrollment process. AF2: If the system encounters an error during point transactions, the Sales user will be notified and provided with instructions on how to proceed.		
Exceptions:	E1: If the loyalty program rules or point values change, the system will automatically update the customer's account accordingly. E2: If the customer's loyalty account is inactive or expired, the Sales user will be notified and provided with instructions on how to reactivate the account.		

Priority:	Medium
Frequency of Use:	Often
Business Rules:	-Customer loyalty points must be awarded and redeemed in accordance with program rules. -Customer loyalty point balances must be accurate and up-to-date. -Customers must be informed about their point balance and loyalty program benefits. -Loyalty program rules and point values may be subject to change at the discretion of the Loyalty Program Administrator.
Other Information:	-The system can be integrated with point-of-sale (POS) systems to automate point accrual based on transactions. -The system can generate reports on customer point balances, redemption trends, and program performance.
Assumptions:	-Customer Point Awareness: Customers are aware of their loyalty point balance and the benefits of the program. -Loyalty Program Communication: Sales personnel are informed about loyalty program updates, rules, and promotional opportunities. -System Reliability: The jewelry sales management system reliably processes point transactions and maintains accurate point balances.

ID	Business Rule	Business Rule Description
MCP1	**Point Accumulation**	**Points are accumulated based on customer transactions or activities according to predefined rules.**
MCP2	**Point Redemption**	**Customers can redeem accumulated points for rewards or discounts as per the redemption policy.**
MCP3	**Point Expiry**	**Points expire after a specified period of inactivity or from the date of accumulation.**
MCP4	**Point Adjustment**	**Adjustments to points (e.g., additions, deductions) must be authorized and documented.**
MCP5	**Point Balance Inquiry**	**Customers can view their current point balance through their account interface.**
MCP6	**Fraud Prevention**	**Measures must be in place to detect and prevent fraudulent activities related to point accumulation and redemption.**
MCP7	**Points for Account Actions**	**Points may be awarded for specific actions taken by the customer, such as account updates or surveys.**

UC ID and Name:	**AD-01: Manage Policy**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Admin	Secondary Actors:	None
Trigger:	-Admin needs to create, update, or delete company policies and procedures. -Admin needs to manage policy access permissions. -Admin needs to ensure policy compliance across the organization.		
Description:	-This use case describes the process of managing company policies and procedures for the Admin actor within the jewelry sales management system.		
Preconditions:	-The jewelry sales management system must be started and running normally. -The Admin user must log in to the system with a valid account with administrative privileges.		
Postconditions:	-Company policies and procedures are comprehensive, up-to-date, and accessible to authorized personnel. -Policy access permissions are aligned with user roles and responsibilities. -Policy compliance is monitored and enforced within the organization.		
Normal Flow:	Step 1: The Admin user accesses the policy management module within the jewelry sales management system. Step 2: The system displays a list of existing company policies and procedures. Step 3: The Admin user can create a new policy by defining its content, category, and effective date. Step 4: The Admin user can update an existing policy by modifying its content or attributes. Step 5: The Admin user can delete a policy if it is no longer applicable or relevant. Step 6: The Admin user can manage policy access permissions by assigning policies to specific user roles or groups. Step 7: The Admin user can monitor policy compliance by generating reports on policy acknowledgments, violations, and training completion.		
Alternative Flows:	AF1: If the Admin user attempts to create, update, or delete a policy without the necessary permissions, they will be notified and redirected to the appropriate authority.		

	AF2: If the Admin user searches for a policy that does not exist in the system, they will be notified and provided with instructions on how to create the policy.
Exceptions:	E1: If the system encounters a technical error, the Admin user will be notified and asked to try again later.
Priority:	High
Frequency of Use:	Often
Business Rules:	-Company policies and procedures must be clear, concise, and aligned with organizational goals and legal requirements. -Policy access permissions must be granted based on the principle of least privilege. -Policy compliance is mandatory for all employees, and non-compliance may result in disciplinary action. -Admin has the authority to review, revise, and enforce company policies and procedures.
Other Information:	-The system can be integrated with e-learning platforms to provide policy training and track employee acknowledgments. -The system can generate alerts and notifications to remind employees of upcoming policy changes or compliance req.rements.
Assumptions:	-Policy Authority: Admin has the authority to establish, modify, and interpret company policies and procedures. -System Security: The system is secure and protects sensitive policy information from unauthorized access or modification.

ID	Business Rule	Business Rule Description
MP1	**Policy Creation**	**New policies must be created with clear definitions, objectives, and approval from authorized personnel.**
MP2	**Policy Review**	**Policies must be reviewed periodically to ensure they remain up-to-date and relevant.**
MP3	**Policy Approval**	**All new or updated policies must be approved by relevant stakeholders before implementation.**
MP4	**Policy Communication**	**Policies must be communicated to all relevant parties, and acknowledgment of receipt should be obtained.**
MP5	**Policy Access Control**	**Access to policies must be restricted to authorized personnel only, with appropriate permissions for viewing or editing.**
MP6	**Policy Implementation**	**Policies must be implemented according to the approved guidelines and monitored for compliance.**

MP7	**Policy Modification**	**Changes to existing policies must follow a formal process, including review and re-approval.**
MP8	**Policy Documentation**	**All policies must be documented and stored securely for future reference and compliance audits.**
MP9	**Policy Training**	**Relevant staff must receive training on new or updated policies to ensure understanding and compliance.**

UC ID and Name:	**AD-02:Manage Discount Policy**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Admin	Secondary Actors:	None
Trigger:	-Admin needs to create, update, or delete discount policies. -Admin needs to manage discount policy eligibility and application rules. -Admin needs to monitor the impact of discount policies on sales and revenue.		
Description:	This use case describes the process of managing discount policies for the Admin actor within the jewelry sales management system.		
Preconditions:	-The jewelry sales management system must be started and running normally. -The Admin user must log in to the system with a valid account with administrative privileges.		
Postconditions:	-Discount policies are well-defined, strategically aligned, and effectively communicated. -Discount policy eligibility and application rules are clear and transparent. -The impact of discount policies on sales and revenue is monitored and evaluated.		
Normal Flow:	Step 1: The Admin user accesses the discount policy management module within the jewelry sales management system. Step 2: The system displays a list of existing discount policies. Step 3: The Admin user can create a new discount policy by defining its name, type (e.g., percentage, fixed amount), eligibility criteria, application rules (e.g., product groups, customer segments), and duration. Step 4: The Admin user can update an existing discount policy by modifying its details, eligibility criteria, application rules, or duration. Step 5: The Admin user can delete a discount policy if it is no longer applicable or relevant.		

	Step 6: The Admin user can monitor the impact of discount policies by generating reports on sales performance, revenue generated, and customer redemption rates.
Alternative Flows:	AF1: If the Admin user attempts to create, update, or delete a discount policy without the necessary permissions, they will be notified and redirected to the appropriate authority. AF2: If the Admin user encounters an error while defining or modifying a discount policy, they will be notified and provided with instructions on how to proceed.
Exceptions:	E1: If the system encounters a technical error, the Admin user will be notified and asked to try again later.
Priority:	High
Frequency of Use:	Often
Business Rules:	-Discount policies must be aligned with overall business strategies and marketing objectives. -Discount policy eligibility and application rules must be fair, transparent, and consistent with customer expectations. -The impact of discount policies on sales, revenue, and profitability must be carefully evaluated. -Admin has the authority to create, manage, and monitor discount policies across the organization.
Other Information:	-The system can be integrated with marketing automation tools to automate discount communication and customer targeting. -The system can generate alerts and notifications to inform Admin of potential issues or opportunities related to discount policies.
Assumptions:	-Policy Optimization: Admin uses data and insights to optimize discount policies for maximum effectiveness and profitability. -System Security: The system is secure and protects sensitive discount policy information from unauthorized access or modification.

ID	Business Rule	Business Rule Description
MD1	**Discount Creation**	**Discounts must be created with clear criteria, including the type, amount, and duration of the discount.**
MD2	**Discount Approval**	**All discount policies must be approved by authorized personnel before they can be applied.**
MD3	**Discount Application**	**Discounts must be applied according to predefined rules and cannot be combined unless specified.**

MD4	**Eligibility Criteria**	**Only eligible customers or transactions can receive the discount based on predefined criteria.**
MD5	**Discount Expiry**	**Discounts must have an expiration date or period after which they are no longer valid.**
MD6	**Discount Tracking**	**Discounts applied must be tracked and recorded for auditing and reporting purposes.**
MD7	**Policy Communication**	**Information about discounts must be communicated to relevant parties and customers clearly.**
MD8	**Discount Modification**	**Any changes to discount policies must follow a formal approval process and be updated in the system accordingly.**
MD9	**Fraud Prevention**	**Measures must be in place to prevent misuse or fraud related to discount applications.**
MD10	**Review and Reporting**	**Discounts must be reviewed regularly to assess their effectiveness and make adjustments as needed.**

UC ID and Name:	**AD-03:Manage Return Policy**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Admin	Secondary Actors:	None
Trigger:	-Admin needs to create, update, or delete return policies. -Admin needs to manage return policy eligibility and application rules. -Admin needs to monitor the impact of return policies on customer satisfaction and operational efficiency.		
Description:	-This use case describes the process of managing return policies for the Admin actor within the jewelry sales management system.		
Preconditions:	-The jewelry sales management system must be started and running normally. -The Admin user must log in to the system with a valid account with administrative privileges.		
Postconditions:	-Return policies are well-defined, customer-friendly, and aligned with industry standards. -Return policy eligibility and application rules are clear, transparent, and consistently enforced. -The impact of return policies on customer satisfaction and operational efficiency is monitored and evaluated.		

Normal Flow:	Step 1: The Admin user accesses the return policy management module within the jewelry sales management system. Step 2: The system displays a list of existing return policies. Step 3: The Admin user can create a new return policy by defining its name, eligibility criteria (e.g., purchase date, product categories), return window duration, return methods (e.g., in-store, mail), restocking fees, and refund options. Step 4: The Admin user can update an existing return policy by modifying its details, eligibility criteria, application rules, or other parameters. Step 5: The Admin user can delete a return policy if it is no longer applicable or relevant. Step 6: The Admin user can monitor the impact of return policies by generating reports on return rates, reasons for return, customer satisfaction feedback, and operational costs associated with returns.
Alternative Flows:	AF1: If the Admin user attempts to create, update, or delete a return policy without the necessary permissions, they will be notified and redirected to the appropriate authority. AF2: If the Admin user encounters an error while defining or modifying a return policy, they will be notified and provided with instructions on how to proceed.
Exceptions:	E1: If the system encounters a technical error, the Admin user will be notified and asked to try again later.
Priority:	Medium
Frequency of Use:	Often
Business Rules:	-Return policies must be customer-centric, fair, and consistent with the company's brand image. -Return policy eligibility and application rules must be clearly communicated to customers at the point of purchase and on the company's website. -The impact of return policies on customer satisfaction, operational efficiency, and profitability must be carefully evaluated. -Admin has the authority to create, manage, and monitor return policies across the organization.
Other Information:	-The system can be integrated with customer relationship management (CRM) tools to track customer return history and identify trends. -The system can generate alerts and notifications to inform Admin of potential issues or opportunities related to return policies.
Assumptions:	-Impact Analysis: The system has the capability to track and analyze the impact of return policies on customer satisfaction, operational costs, and profitability. -Policy Optimization: Admin uses data and insights to optimize return policies for a balance between customer satisfaction and operational efficiency.

	-System Security: The system is secure and protects sensitive return policy information from unauthorized access or modification.

ID	Business Rule	Business Rule Description
MR1	**Return Eligibility**	**Items must meet specific criteria to be eligible for return, such as being within a specified period and in original condition.**
MR2	**Return Approval**	**Returns must be approved by authorized personnel before processing.**
MR3	**Return Process**	**The return process must be clearly defined, including steps for initiating, approving, and processing returns.**
MR4	**Refund or Exchange**	**Customers may receive a refund or exchange based on the return policy and item condition.**
MR5	**Return Tracking**	**All returns must be tracked and recorded for inventory management and reporting purposes.**
MR6	**Return Policy Communication**	**The return policy must be clearly communicated to customers at the point of purchase and through relevant channels.**
MR7	**Return Handling**	**Returned items must be inspected upon receipt to verify condition and adherence to return policy criteria.**
MR8	**Return Fraud Prevention**	**Measures must be in place to prevent and detect fraudulent return activities.**
MR9	**Policy Review**	**The return policy must be reviewed periodically to ensure it remains effective and up-to-date.**
MR10	**Training and Support**	**Staff must be trained on return policies and procedures to ensure proper handling and customer service.**

UC ID and Name:	**AD-04: Manage Buyback Policy**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Admin	Secondary Actors:	None
Trigger:	-Admin needs to create, update, or delete buyback policies.		

	-Admin needs to manage buyback policy eligibility and evaluation criteria. -Admin needs to monitor the impact of buyback policies on inventory management and customer satisfaction.
Description:	-This use case describes the process of managing buyback policies for the Admin actor within the jewelry sales management system.
Preconditions:	-The jewelry sales management system must be started and running normally. -The Admin user must log in to the system with a valid account with administrative privileges.
Postconditions:	-Buyback policies are well-defined, strategically aligned, and effectively communicated. -Buyback policy eligibility and evaluation criteria are clear, transparent, and consistently applied. -The impact of buyback policies on inventory management, customer satisfaction, and profitability is monitored and evaluated.
Normal Flow:	Step 1: The Admin user accesses the buyback policy management module within the jewelry sales management system. Step 2: The system displays a list of existing buyback policies. Step 3: The Admin user can create a new buyback policy by defining its name, eligibility criteria (e.g., product categories, purchase date range), evaluation criteria (e.g., condition, original purchase price), buyback pricing formula, and communication strategies. Step 4: The Admin user can update an existing buyback policy by modifying its details, eligibility criteria, evaluation criteria, pricing formula, or communication strategies. Step 5: The Admin user can delete a buyback policy if it is no longer applicable or relevant. Step 6: The Admin user can monitor the impact of buyback policies by generating reports on buyback volume, inventory turnover, customer feedback, and profitability metrics.
Alternative Flows:	AF1: If the Admin user attempts to create, update, or delete a buyback policy without the necessary permissions, they will be notified and redirected to the appropriate authority. AF2: If the Admin user encounters an error while defining or modifying a buyback policy, they will be notified and provided with instructions on how to proceed.
Exceptions:	E1: If the system encounters a technical error, the Admin user will be notified and asked to try again later.
Priority:	Medium
Frequency of Use:	Often
Business Rules:	-Buyback policies must be aligned with overall business strategies and inventory management goals.

	-Buyback policy eligibility and evaluation criteria must be fair, transparent, and consistently applied across all customers. -The impact of buyback policies on inventory levels, customer satisfaction, and profitability must be carefully evaluated. -Admin has the authority to create, manage, and monitor buyback policies across the organization.
Other Information:	-The system can be integrated with inventory management tools to track buyback transactions and update inventory levels accordingly. -The system can generate alerts and notifications to inform Admin of potential issues or opportunities related to buyback policies.
Assumptions:	-Impact Analysis: The system has the capability to track and analyze the impact of buyback policies on inventory levels, customer satisfaction, and profitability. -Policy Optimization: Admin uses data and insights to optimize buyback policies for a balance between inventory management, customer satisfaction, and profitability. -System Security: The system is secure and protects sensitive buyback policy information from unauthorized access or modification.

ID	Business Rule	Business Rule Description
MB1	**Buyback Eligibility**	**Items eligible for buyback must meet specific criteria, such as condition, age, or purchase history.**
MB2	**Buyback Valuation**	**The value of the buyback offer must be determined based on predefined criteria or appraisal methods.**
MB3	**Buyback Approval**	**Buyback transactions must be approved by authorized personnel before finalizing.**
MB4	**Buyback Process**	**The buyback process must be clearly defined, including steps for initiation, approval, and processing.**
MB5	**Buyback Communication**	**Information about the buyback policy and process must be communicated clearly to customers.**
MB6	**Buyback Tracking**	**All buyback transactions must be tracked and recorded for inventory management and financial reporting.**
MB7	**Condition Verification**	**Returned items must be inspected and verified for condition before finalizing the buyback offer.**
MB8	**Policy Compliance**	**All buyback transactions must comply with the established policy and legal requirements.**

MB9	**Fraud Prevention**	**Measures must be in place to detect and prevent fraudulent activities related to buybacks.**
MB10	**Policy Review**	**The buyback policy must be reviewed regularly to ensure it remains effective and aligned with business goals.**
MB11	**Training and Support**	**Staff must be trained on buyback policies and procedures to ensure proper handling and customer service.**

UC ID and Name:	**AD-05:Manage Access**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Admin	Secondary Actors:	None
Trigger:	-Admin needs to create, update, or delete user accounts. -Admin needs to assign or revoke user roles and permissions. -Admin needs to manage user access to system resources and functionalities. -Admin needs to monitor and audit user access activities.		
Description:	This use case describes the process of managing user access within the jewelry sales management system for the Admin actor.		
Preconditions:	-The jewelry sales management system must be started and running normally. -The Admin user must log in to the system with a valid account with administrative privileges.		
Postconditions:	-User accounts are created, updated, or deleted as required. -User roles and permissions are aligned with job responsibilities and security principles. -User access activities are monitored and audited to ensure compliance and prevent unauthorized access.		
Normal Flow:	Step 1: The Admin user accesses the user management module within the jewelry sales management system. Step 2: The system displays a list of existing user accounts. Step 3: The Admin user can create a new user account by entering the user's name, email address, password, and assigning an initial role. Step 4: The Admin user can update an existing user account by modifying the user's details, role, or permissions. Step 5: The Admin user can delete a user account if it is no longer needed. Step 6: The Admin user can assign or revoke user roles and permissions by selecting the user account and modifying their access privileges.		

	Step 7: The Admin user can monitor user access activities by generating reports on login attempts, system usage, and potential security breaches. Step 8: The Admin user can audit user access logs to investigate suspicious activities and ensure compliance with security policies.
Alternative Flows:	AF1: If the Admin user attempts to create, update, or delete a user account without the necessary permissions, they will be notified and redirected to the appropriate authority. AF2: If the Admin user encounters an error while creating, updating, or managing user accounts, they will be notified and provided with instructions on how to proceed.
Exceptions:	E1: If the system encounters a technical error, the Admin user will be notified and asked to try again later.
Priority:	High
Frequency of Use:	Often
Business Rules:	-User accounts must be created and managed in accordance with the organization's security policies and access control principles. -User roles and permissions must be assigned based on the principle of least privilege, granting only the necessary access for each user's job responsibilities. -User access activities must be monitored and audited to detect and prevent unauthorized access, data breaches, and security violations. -Admin has the authority to create, manage, and audit user access within the jewelry sales management system.
Other Information:	-The system can be integrated with identity and access management (IAM) tools to automate user provisioning, role assignment, and access control policies. -The system can generate alerts and notifications to inform Admin of potential security risks or unauthorized access attempts.
Assumptions:	-System Security: The system is secure and protects user information, passwords, and access credentials from unauthorized access or modification. -Administrative Authority: Admin has the authority to manage all user accounts, roles, and permissions within the system.

ID	Business Rule	Business Rule Description
MA1	**Access Provisioning**	**Access rights must be granted based on role, responsibilities, and authorization from relevant personnel.**
MA2	**Access Review**	**Access permissions must be reviewed regularly to ensure they are appropriate and up-to-date.**

MA3	**Access Revocation**	**Access rights must be revoked promptly when an employee leaves or no longer requires access, or if their role changes.**
MA4	**Access Control**	**Access to systems and data must be controlled through secure authentication methods, such as passwords or multi-factor authentication.**
MA5	**Access Logging**	**All access attempts, both successful and unsuccessful, must be logged for security and auditing purposes.**
MA6	**Role-Based Access**	**Access must be granted based on predefined roles and responsibilities to ensure users only access necessary information.**
MA7	**Access Request and Approval**	**Access requests must be submitted formally and approved by designated personnel before access is granted.**
MA8	**Access Policy Communication**	**Access policies and procedures must be communicated to all relevant personnel and documented for reference.**
MA9	**Temporary Access**	**Temporary access must be granted with strict time limits and monitored to prevent misuse.**
MA10	**Access Training**	**Staff must receive training on access policies, procedures, and security best practices to ensure compliance.**
MA11	**Emergency Access**	**Procedures for granting emergency access must be defined and include oversight and logging to ensure security.**

UC ID and Name:	**AD-06:Update Role**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Admin	Secondary Actors:	None
Trigger:	Admin needs to modify the roles and permissions associated with a user account.		
Description:	This use case describes the process of updating user roles and permissions within the jewelry sales management system for the Admin actor.		
Preconditions:	-The jewelry sales management system must be started and running normally. -The Admin user must log in to the system with a valid account with administrative privileges.		

	-The user account for which roles and permissions are to be updated must exist within the system.
Postconditions:	-The user account's roles and permissions are updated as specified by the Admin user. -The updated roles and permissions are aligned with the user's job responsibilities and security principles. -The system reflects the updated roles and permissions for the user account.
Normal Flow:	Step 1: The Admin user accesses the user management module within the jewelry sales management system. Step 2: The system displays a list of existing user accounts. Step 3: The Admin user selects the user account for which they want to update roles and permissions. Step 4: The system displays the user's current roles and permissions. Step 5: The Admin user selects the desired roles and permissions for the user by checking or unchecking the corresponding options. Step 6: The Admin user clicks the "Update" button to save the changes. Step 7: The system confirms the role and permission updates and reflects the changes in the user account.
Alternative Flows:	AF1: If the Admin user attempts to update the roles and permissions of a user account without the necessary permissions, they will be notified and redirected to the appropriate authority. AF2: If the Admin user encounters an error while updating roles and permissions, they will be notified and provided with instructions on how to proceed.
Exceptions:	E1: If the system encounters a technical error, the Admin user will be notified and asked to try again later.
Priority:	Medium
Frequency of Use:	Often
Business Rules:	-User roles and permissions must be aligned with the user's job responsibilities and the organization's security policies. -Role and permission updates should be made in a timely manner to reflect changes in job duties or security requirements. -Admin has the authority to update user roles and permissions within the jewelry sales management system.
Other Information:	-The system can be integrated with identity and access management (IAM) tools to automate role and permission updates based on job changes or organizational policies. -The system can generate notifications to inform the affected user of role and permission changes.
Assumptions:	-Change Management: Role and permission updates are managed in a controlled manner to minimize disruption and maintain system integrity.

	-System Security: The system is secure and protects user information, roles, and permissions from unauthorized access or modification.

ID	Business Rule	Business Rule Description
UR1	Role Definition	Roles must be clearly defined with specific responsibilities and permissions.
UR2	Role Change Request	Requests for role changes must be submitted formally and include justification for the change.
UR3	Role Approval	All role changes must be reviewed and approved by authorized personnel before implementation.
UR4	Role Update Process	The process for updating roles must be documented, including steps for approval and implementation.
UR5	Role Communication	Changes to roles must be communicated to affected personnel and updated in relevant systems.
UR6	Role Access Review	After a role change, access permissions must be reviewed to ensure they are aligned with the new role.
UR7	Training for New Roles	Staff members with updated roles must receive training to understand their new responsibilities and permissions.
UR8	Role Documentation	All role changes must be documented and stored securely for future reference and auditing.
UR9	Role Monitoring	The effectiveness of role changes must be monitored to ensure they meet business requirements and do not introduce risks.
UR10	Policy Review	The role update policy must be reviewed periodically to ensure it remains relevant and effective.

UC ID and Name:	**AD-07:View Dashboard**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Admin	Secondary Actors:	None
Trigger:	Admin needs to access and review system-generated reports, metrics, and visualizations related to various aspects of the jewelry sales business.		

Description:	This use case describes the process of viewing dashboards within the jewelry sales management system for the Admin actor.
Preconditions:	-The jewelry sales management system must be started and running normally. -The Admin user must log in to the system with a valid account with administrative privileges.
Postconditions:	-The Admin user has accessed and reviewed the desired dashboards. -The Admin user has gained insights into key performance indicators (KPIs) and business trends related to jewelry sales. -The Admin user is able to make informed decisions based on the data and insights presented in the dashboards.
Normal Flow:	Step 1: The Admin user accesses the dashboard module within the jewelry sales management system. Step 2: The system displays a list of available dashboards, categorized by business area or function. Step 3: The Admin user selects the desired dashboard to view. Step 4: The system displays the selected dashboard, presenting relevant data, metrics, and visualizations in an interactive format. Step 5: The Admin user can drill down into the data by clicking on specific data points or chart elements. Step 6: The Admin user can filter the data by applying date ranges, product categories, or other relevant criteria. Step 7: The Admin user can export the dashboard data in various formats (e.g., CSV, PDF) for further analysis or sharing.
Alternative Flows:	AF1: If the Admin user attempts to access a dashboard without the necessary permissions, they will be notified and redirected to the appropriate dashboard or view. AF2: If the system encounters an error while loading or displaying a dashboard, the Admin user will be notified and asked to try again later.
Exceptions:	E1: If the system encounters a technical error, the Admin user will be notified and asked to try again later.
Priority:	High
Frequency of Use:	Often
Business Rules:	-Dashboards must provide clear, concise, and visually appealing representations of key business metrics and trends. -Dashboards must be tailored to the specific needs and information requirements of the Admin user. -Data presented in dashboards must be accurate, up-to-date, and reliable. -Admin has the authority to access and view all dashboards within the jewelry sales management system.
Other Information:	-The system can be integrated with business intelligence (BI) tools to provide advanced data analysis and visualization capabilities.

	-The system can generate alerts and notifications to inform Admin of potential issues or opportunities identified from the dashboards.
Assumptions:	-Dashboard Availability: The system provides a comprehensive suite of dashboards covering various aspects of the jewelry sales business. -Decision-Making Support: Dashboards enable Admin to make informed decisions based on data-driven insights. -System Security: The system protects sensitive data and dashboard access from unauthorized users.

ID	Business Rule	Business Rule Description
VD1	**Dashboard Access**	**Access to the dashboard must be granted based on user roles and permissions.**
VD2	**Data Display**	**The dashboard must display relevant and accurate data according to user permissions and roles.**
VD3	**Data Refresh**	**Dashboard data must be refreshed at defined intervals to ensure it reflects the most current information.**
VD4	**Dashboard Customization**	**Users may be allowed to customize their dashboard views based on their preferences and needs, within defined limits.**
VD5	**Security and Privacy**	**Sensitive data displayed on the dashboard must be protected to ensure confidentiality and comply with privacy regulations.**
VD6	**Access Logging**	**All access to the dashboard must be logged for security and auditing purposes.**
VD7	**User Training**	**Users must receive training on how to effectively use and interpret dashboard data.**
VD8	**Dashboard Availability**	**The dashboard must be available to authorized users during defined operational hours, with minimal downtime.**
VD9	**Error Handling**	**Procedures must be in place to handle errors or issues with dashboard data or functionality, including notification and resolution processes.**
VD10	**Dashboard Review**	**The dashboard must be reviewed periodically to ensure it meets business needs and user requirements.**

<table>
<tr><td>UC ID and Name:</td><td colspan="3">AD-08:Manage Manager</td></tr>
<tr><td></td><td colspan="3"></td></tr>
<tr><td>Created By:</td><td>Hoanv</td><td>Date Created:</td><td></td></tr>
<tr><td>Primary Actor:</td><td>Admin</td><td>Secondary Actors:</td><td>None</td></tr>
<tr><td>Trigger:</td><td colspan="3">-Admin needs to create, update, or delete manager accounts.
-Admin needs to assign or revoke manager roles and permissions.
-Admin needs to monitor and audit manager activities.</td></tr>
<tr><td>Description:</td><td colspan="3">-This use case describes the process of managing manager accounts within the jewelry sales management system for the Admin actor.</td></tr>
<tr><td>Preconditions:</td><td colspan="3">-The jewelry sales management system must be started and running normally.
-The Admin user must log in to the system with a valid account with administrative privileges.</td></tr>
<tr><td>Postconditions:</td><td colspan="3">-Manager accounts are created, updated, or deleted as required.
-Manager roles and permissions are aligned with job responsibilities and security principles.
-Manager activities are monitored and audited to ensure compliance and prevent unauthorized access.</td></tr>
<tr><td>Normal Flow:</td><td colspan="3">Step 1: The Admin user accesses the user management module within the jewelry sales management system.
Step 2: The system displays a list of existing user accounts, including manager accounts.
Step 3: The Admin user selects the manager account they want to manage.
Step 4: The system displays the manager's profile, including their name, email address, role, and permissions.
Step 5: The Admin user can update the manager's profile by modifying their details, role, or permissions.
Step 6: The Admin user can create a new manager account by entering the manager's name, email address, password, and assigning an initial role.
Step 7: The Admin user can delete a manager account if it is no longer needed.
Step 8: The Admin user can monitor manager activities by generating reports on login attempts, system usage, and potential security breaches.
Step 9: The Admin user can audit manager access logs to investigate suspicious activities and ensure compliance with security policies.</td></tr>
<tr><td>Alternative Flows:</td><td colspan="3">AF1: If the Admin user attempts to create, update, or delete a manager account without the necessary permissions, they will be notified and redirected to the appropriate authority.</td></tr>
</table>

	AF2: If the Admin user encounters an error while creating, updating, or managing manager accounts, they will be notified and provided with instructions on how to proceed.
Exceptions:	E1: If the system encounters a technical error, the Admin user will be notified and asked to try again later.
Priority:	High
Frequency of Use:	Often
Business Rules:	-Manager accounts must be created and managed in accordance with the organization's security policies and access control principles. -Manager roles and permissions must be assigned based on the principle of least privilege, granting only the necessary access for each manager's job responsibilities. -Manager activities must be monitored and audited to detect and prevent unauthorized access, data breaches, and security violations. -Admin has the authority to create, manage, and audit manager accounts within the jewelry sales management system.
Other Information:	-The system can be integrated with identity and access management (IAM) tools to automate manager provisioning, role assignment, and access control policies. -The system can generate alerts and notifications to inform Admin of potential security risks or unauthorized access attempts by managers.
Assumptions:	-Administrative Authority: Admin has the authority to manage all manager accounts, roles, and permissions within the system. -Security Awareness: Admin is responsible for ensuring that all managers are aware of and adhere to security policies and best practices. -System Security: The system is secure and protects user information, passwords, and access credentials from unauthorized access or modification.

ID	Business Rule	Business Rule Description
MM1	**Manager Appointment**	**Managers must be appointed based on qualifications, experience, and approval from relevant senior personnel.**
MM2	**Manager Responsibilities**	**Managers must have clearly defined responsibilities and authority within their role.**
MM3	**Performance Evaluation**	**Managers must undergo regular performance evaluations to assess effectiveness and areas for improvement.**
MM4	**Role Changes**	**Any changes in managerial roles or responsibilities must be formally approved and communicated.**

MM5	**Training and Development**	**Managers must receive ongoing training and development to enhance their leadership skills and knowledge.**
MM6	**Access Control**	**Managers must have appropriate access rights based on their role and responsibilities, with periodic reviews to ensure alignment.**
MM7	**Manager Communication**	**Important information and updates must be communicated to managers in a timely and effective manner.**
MM8	**Decision-Making Authority**	**Managers must have clear guidelines on their decision-making authority and escalation procedures.**
MM9	**Conflict Resolution**	**Managers must follow established procedures for handling conflicts and issues within their teams.**
MM10	**Succession Planning**	**A succession plan must be in place for key managerial positions to ensure continuity in leadership.**
MM11	**Manager Documentation**	**All managerial appointments, role changes, and evaluations must be documented and stored securely for future reference.**

UC ID and Name:	**MA-01:Manage Product**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Manager	Secondary Actors:	None
Trigger:	-Manager needs to add, edit, or remove products from the system. -Manager needs to manage product information, including descriptions, pricing, and availability. -Manager needs to upload product images and videos. -Manager needs to assign products to categories and subcategories.		
Description:	This use case describes the process of managing products within the jewelry sales management system for the Manager actor.		
Preconditions:	-The jewelry sales management system must be started and running normally. -The Manager user must log in to the system with a valid account with manager privileges.		
Postconditions:	-Products are added, edited, or removed as specified by the Manager. -Product information is accurate, up-to-date, and consistent across all channels. -Product images and videos are high-quality and visually appealing.		

	-Products are assigned to appropriate categories and subcategories for easy navigation.
Normal Flow:	Step 1: The Manager user accesses the product management module within the jewelry sales management system. Step 2: The system displays a list of existing products. Step 3: The Manager user can add a new product by entering the product name, description, price, availability, and other relevant details. Step 4: The Manager user can upload product images and videos by selecting them from their local computer or by providing URLs. Step 5: The Manager user can assign the product to one or more categories and subcategories. Step 6: The Manager user can edit an existing product by modifying its details, images, videos, or category assignments. Step 7: The Manager user can remove a product from the system if it is no longer available or relevant.
Alternative Flows:	AF1: If the Manager user attempts to add, edit, or remove a product without the necessary permissions, they will be notified and redirected to the appropriate authority. AF2: If the Manager user encounters an error while adding, editing, or managing products, they will be notified and provided with instructions on how to proceed.
Exceptions:	E1: If the system encounters a technical error, the Manager user will be notified and asked to try again later.
Priority:	High
Frequency of Use:	Often
Business Rules:	-Product information must be accurate, complete, and consistent with the actual product. -Product images and videos must be high-quality, visually appealing, and represent the product accurately. -Products must be categorized and subcategorized in a way that is logical and user-friendly. -Manager has the authority to manage products within the jewelry sales management system.
Other Information:	-The system can be integrated with product information management (PIM) tools to automate product data enrichment and syndication. -The system can generate product feeds for various e-commerce platforms and marketplaces.
Assumptions:	-Managerial Authority: Managers have the authority to add, edit, and remove products within their assigned product categories. -System Security: The system is secure and protects product information and images from unauthorized access or modification.

ID	Business Rule	Business Rule Description
MP1	Product Development	New products must be developed following a structured process that includes market research, design, and testing.
MP2	Product Approval	All new or modified products must be approved by relevant stakeholders before being introduced to the market.
MP3	Product Lifecycle Management	Products must be managed throughout their lifecycle, including introduction, growth, maturity, and discontinuation.
MP4	Product Documentation	Detailed documentation for each product must be maintained, including specifications, user manuals, and regulatory compliance.
MP5	Product Quality Control	Products must undergo quality control checks to ensure they meet specified standards and regulations.
MP6	Product Pricing	Product pricing must be determined based on cost analysis, market conditions, and competitive positioning.
MP7	Product Inventory Management	Product inventory must be managed to ensure optimal stock levels, minimize obsolescence, and meet customer demand.
MP8	Product Marketing	Marketing strategies for products must be developed and implemented to effectively reach target audiences and drive sales.
MP9	Product Return and Warranty	Procedures for handling product returns and warranties must be established and communicated to customers.
MP10	Product Training	Staff must receive training on product features, benefits, and usage to provide accurate information and support to customers.
MP11	Product Performance Review	Products must be reviewed periodically to assess performance, gather feedback, and make improvements as needed.

UC ID and Name:	**MA-02:Manage Product**		
Created By:	Hoanv	Date Created:	

Primary Actor:	Manager	Secondary Actors:	None
Trigger:	-Manager needs to add, edit, or remove products from the system. -Manager needs to manage product information, including descriptions, pricing, and availability. -Manager needs to upload product images and videos. -Manager needs to assign products to categories and subcategories. -Manager needs to manage product variants, such as colors, sizes, and materials. -Manager needs to set product promotions and discounts. -Manager needs to track product inventory levels.		
Description:	This use case describes the process of managing products within the jewelry sales management system for the Manager actor, including additional details for a more comprehensive understanding of the use case.		
Preconditions:	-The jewelry sales management system must be started and running normally. -The Manager user must log in to the system with a valid account with manager privileges.		
Postconditions:	-Products are added, edited, or removed as specified by the Manager. -Product information is accurate, up-to-date, consistent across all channels, and optimized for search engines. -Product images and videos are high-quality, visually appealing, and represent the product accurately from various angles and in use. -Products are assigned to appropriate categories and subcategories for easy navigation and filtering. -Product variants are defined and managed accurately, reflecting the different options available to customers. -Product promotions and discounts are set correctly, ensuring that customers receive the intended savings. -Product inventory levels are tracked accurately, preventing stockouts and overstocking.		
Normal Flow:	Step 1: The Manager user accesses the product management module within the jewelry sales management system. Step 2: The system displays a list of existing products. Step 3: The Manager user can add a new product by entering the product name, description, price, availability, and other relevant details. Step 4: The Manager user can upload product images and videos by selecting them from their local computer or by providing URLs. Step 5: The Manager user can assign the product to one or more categories and subcategories.		

	Step 6: The Manager user can manage product variants by defining the different options available (e.g., colors, sizes, materials) and setting prices and inventory levels for each variant. Step 7: The Manager user can set product promotions and discounts by specifying the discount percentage, start and end dates, and applicable product variants or categories. Step 8: The Manager user can track product inventory levels by viewing real-time stock quantities, setting reorder points, and receiving alerts for low stock levels. Step 9: The Manager user can edit an existing product by modifying its details, images, videos, category assignments, variants, promotions, or inventory levels. Step 10: The Manager user can remove a product from the system if it is no longer available or relevant.
Alternative Flows:	AF1: If the Manager user attempts to add, edit, or remove a product without the necessary permissions, they will be notified and redirected to the appropriate authority. AF2: If the Manager user encounters an error while adding, editing, or managing products, they will be notified and provided with instructions on how to proceed. AF3: If a product variant becomes unavailable, the Manager user can mark it as "out of stock" or "discontinued" to prevent customers from purchasing it. AF4: If a product promotion or discount is no longer applicable, the Manager user can end it or modify its parameters.
Exceptions:	E1: If the system encounters a technical error, the Manager user will be notified and asked to try again later. E2: If a product inventory level drops below the reorder point, the Manager user will receive an alert to replenish stock.
Priority:	High
Frequency of Use:	Often
Business Rules:	-Product information must be accurate, complete, consistent with the actual product, and optimized for search engines. -Product images and videos must be high-quality, visually appealing, represent the product accurately, and comply with copyright laws. -Products must be categorized and subcategorized in a way that is logical, user-friendly, and aligned with the organization's product structure.
Other Information:	
Assumptions:	-Product Knowledge: Managers possess a deep understanding of the products they manage, including their features, benefits, target audience, and competitive landscape. -Data Accuracy: Managers are responsible for ensuring the accuracy and completeness of product information within their assigned categories.

ID	Business Rule	Business Rule Description
MP1	**Product Creation**	**New products must be created based on market research, business needs, and approval from relevant stakeholders.**
MP2	**Product Approval**	**All products must be approved by designated personnel before being launched or sold.**
MP3	**Product Updates**	**Updates or modifications to existing products must be documented, approved, and communicated to all relevant parties.**
MP4	**Product Quality Assurance**	**Products must meet defined quality standards and undergo testing before release to ensure reliability and safety.**
MP5	**Product Pricing**	**Product pricing must be set based on cost analysis, market conditions, and competitive benchmarks.**
MP6	**Product Inventory Management**	**Inventory levels must be monitored and managed to ensure product availability and minimize stockouts or overstock.**
MP7	**Product Lifecycle Management**	**Products must be managed throughout their lifecycle, including introduction, growth, maturity, and phase-out.**
MP8	**Product Documentation**	**Detailed documentation for each product, including specifications, user guides, and compliance information, must be maintained.**
MP9	**Product Marketing**	**Effective marketing strategies must be developed and implemented to promote products and reach target audiences.**
MP10	**Product Returns and Exchanges**	**Procedures for handling product returns and exchanges must be established and communicated to ensure customer satisfaction.**
MP11	**Product Training**	**Staff must be trained on product features, benefits, and support procedures to assist customers effectively.**
MP12	**Product Performance Monitoring**	**Product performance must be monitored regularly to assess success and gather feedback for continuous improvement.**

UC ID and Name:	**MA-03:Manage Stall**		
Created By:	Hoanv	Date Created:	

<table>
<tr><td>Primary Actor:</td><td>Manager</td><td>Secondary Actors:</td><td>None</td></tr>
<tr><td>Trigger:</td><td colspan="3">The Actor Manager needs to manage operations related to individual stalls within the store.</td></tr>
<tr><td>Description:</td><td colspan="3">This use case describes the functionalities an Actor Manager can perform to manage individual stalls within the jewelry store. This includes managing product information, handling sales and returns, and potentially managing staff assigned to specific stalls (depending on system design).</td></tr>
<tr><td>Preconditions:</td><td colspan="3">-The Actor Manager must be logged in to the system.
-The Actor Manager must have the necessary permissions to manage stalls.</td></tr>
<tr><td>Postconditions:</td><td colspan="3">The desired action related to stall management has been completed (e.g., product information updated, sale processed, return processed).</td></tr>
<tr><td>Normal Flow:</td><td colspan="3">1.The Actor Manager navigates to the Stall Management module.
2.The Actor Manager selects the specific stall they want to manage.
3.The Actor Manager chooses the action they want to perform from available options (may include):

● Manage Products:
○ Add new products to the stall.
○ Update existing product information (e.g., price, stock level).
○ View product details and reports.
● Manage Sales:
○ Process sales transactions for customers at the stall (using barcode scanning or manual entry).
○ Apply relevant discounts or promotions during sales.
○ Print receipts and warranty certificates (if applicable).
● Manage Returns:
○ Initiate return process for customer purchases at the stall.
○ Calculate return value based on company policy (e.g., full refund, partial refund based on wear and tear).
○ Print return receipts.
● Manage Assigned Staff (Optional):
○ Assign staff members to the specific stall (if the system manages staff by stall).
○ View assigned staff details and performance reports (if applicable).

4. The Actor Manager completes the chosen action by entering required information and submitting the request.

5.The system processes the request and displays a confirmation message.</td></tr>
</table>

Alternative Flows:	-If the Actor Manager does not have the necessary permissions, they will be denied access to specific functionalities within Stall Management. -If the Actor Manager enters invalid information, they will be prompted to correct the error. -If the system encounters issues with product stock levels or promotions during sales processing, the Actor Manager will be notified and may need to take corrective actions.
Exceptions:	E1: If the system encounters a technical error, the Manager user will be notified and asked to try again later. E2: If a product stall level drops below the reorder point, the Manager user will receive an alert to replenish the stall.
Priority:	High
Frequency of Use:	Varies depending on store operations (potentially high during peak periods).
Business Rules:	-The Actor Manager must have the authority to manage products and sales within their assigned stalls. -Product information (price, stock) must be accurate and updated regularly. -Sales transactions must comply with company policies and regulations. -Returns must be processed in accordance with company return policy.
Other Information:	-The Actor Manager might be able to view reports on stall performance (e.g., sales figures, popular products). -The system might integrate with a central inventory management system for real-time stock tracking.
Assumptions:	-The Actor Manager is familiar with the system and stall operations. -Products are properly categorized and assigned to specific stalls within the system.

ID	Business Rule	Business Rule Description
MS1	**Stall Setup and Allocation**	**Stalls must be allocated based on predefined criteria such as size, location, and business needs.**
MS2	**Stall Maintenance**	**Regular maintenance must be conducted to ensure stalls are clean, functional, and meet safety standards.**
MS3	**Stall Usage**	**Stalls must be used according to the terms of their lease or rental agreement, including restrictions on modifications and usage.**
MS4	**Stall Design and Branding**	**Stalls must adhere to design and branding guidelines to maintain a cohesive and professional appearance.**

MS5	**Stall Rental Agreements**	**All rental or lease agreements for stalls must be documented and include terms related to duration, fees, and responsibilities.**
MS6	**Stall Compliance**	**Stalls must comply with all relevant regulations, including health, safety, and zoning laws.**
MS7	**Stall Access Control**	**Access to stalls must be controlled and monitored to prevent unauthorized entry and ensure security.**
MS8	**Stall Allocation Review**	**Stall allocations must be reviewed periodically to ensure they are effective and align with current business needs.**
MS9	**Stall Modification**	**Any modifications to stalls must be approved and documented to ensure they meet regulatory and design standards.**
MS10	**Stall Rental Payment**	**Rental payments for stalls must be tracked and collected according to the terms of the rental agreement.**
MS11	**Stall Termination**	**Procedures for terminating stall agreements must be defined, including notice periods and conditions for return of the stall.**

UC ID and Name:	**MA-04:Manage Staff**		
Created By:	Hoanv	Date Created:	
Primary Actor:	Manager	Secondary Actors:	None
Trigger:	-The Actor Manager needs to add a new staff member. -The Actor Manager needs to update the information of an existing staff member. -The Actor Manager needs to delete a staff member.		
Description:	-This use case describes the process of how an Actor Manager can manage their staff. This includes adding new staff members, updating the information of existing staff members, and deleting staff members.		
Preconditions:	-The Actor Manager must be logged in to the system. -The Actor Manager must have the necessary permissions to manage staff.		
Postconditions:	-The new staff member has been added to the system. -The information of the existing staff member has been updated. -The staff member has been deleted from the system.		
Normal Flow:	1.The Actor Manager navigates to the Staff Management module.		

	2.The Actor Manager selects the action they want to perform (add, update, or delete). 3.The Actor Manager enters the required information. 4.The Actor Manager submits the form. 5.The system processes the request and displays a confirmation message.
Alternative Flows:	-If the Actor Manager does not have the necessary permissions, they will be denied access to the Staff Management module. -If the Actor Manager enters invalid information, they will be prompted to correct the error.
Exceptions:	If the system is unavailable, the Actor Manager will be unable to manage staff.
Priority:	High
Frequency of Use:	Medium
Business Rules:	-The Actor Manager must be authorized to manage the staff member. -The staff member's information must be accurate and up-to-date. -The staff member's termination must be processed in accordance with company policy.
Other Information:	-The Actor Manager can also view a list of all staff members, their contact information, and their roles. -The Actor Manager can generate reports on staff performance.
Assumptions:	-The Actor Manager is familiar with the system. -The staff member has a valid user account.

ID	Business Rule	Business Rule Description
MS1	**Staff Recruitment**	**Recruitment of staff must follow a structured process including job descriptions, interviews, and background checks.**
MS2	**Onboarding and Training**	**New staff must undergo onboarding and training programs to understand company policies, procedures, and job responsibilities.**
MS3	**Performance Management**	**Staff performance must be evaluated regularly through formal performance reviews and feedback sessions.**
MS4	**Staff Development and Career Growth**	**Opportunities for staff development and career growth must be provided through training, mentoring, and promotion paths.**
MS5	**Staff Attendance and Timekeeping**	**Staff attendance and timekeeping must be monitored and recorded accurately, with procedures for handling absences and tardiness.**

MS6	**Compensation and Benefits**	**Staff compensation and benefits must be managed according to company policies and legal requirements, and communicated clearly to employees.**
MS7	**Staff Discipline**	**Procedures for addressing staff discipline issues must be in place, including steps for investigation, resolution, and documentation.**
MS8	**Staff Health and Safety**	**Measures must be in place to ensure the health and safety of staff in the workplace, including compliance with relevant regulations and standards.**
MS9	**Staff Communication**	**Effective communication channels must be established to ensure that staff are informed of company updates, policies, and changes.**
MS10	**Staff Records**	**Accurate and confidential records for all staff must be maintained, including personal details, employment history, and performance evaluations.**
MS11	**Staff Exit Procedures**	**Procedures for staff exits, including resignations and terminations, must be defined and include steps for knowledge transfer, return of company property, and final settlements.**

Functional Description Contents

Use Case ID and Name

Give each use case a unique integer sequence number identifier. State a concise name for the use case that indicates the value the use case would provide to some user. Begin with an action verb, followed by an object.

Author and Date Created

Enter the name of the person who initially wrote this use case and the date it was written.

Primary and Secondary Actors

An actor is a person or other entity external to the software system being specified who interacts with the system and performs use cases to accomplish tasks. Different actors often correspond to different user classes, or roles, identified from the customer community that will use the product. Name the primary actor that will be initiating this use case and any other secondary actors who will participate in completing execution of the use case.

Trigger

Identify the business event, system event, or user action that initiates the use case. This trigger alerts the system that it should begin testing the preconditions for the use case so it can judge whether to proceed with execution.

Description

Provide a brief description of the reason for and outcome of this use case, or a high-level description of the sequence of actions and the outcome of executing the use case.

Preconditions

List any activities that must take place, or any conditions that must be true, before the use case can be started. The system must be able to test each precondition. Number each precondition. Example: PRE-1: User's identity has been authenticated.

Postconditions

Describe the state of the system at the successful conclusion of the use case execution. Label each postcondition in the form POST-X, where X is a sequence number. Example: POST-1: Price of item in the database has been updated with the new value.

Normal Flow

Provide a description of the user actions and corresponding system responses that will take place during execution of the use case under normal, expected conditions. This dialog sequence will ultimately lead to accomplishing the goal stated in the use case name and description. Show a numbered list of actions performed by the actor, alternating with responses provided by the system. The normal flow is numbered "X.0", where "X" is the Use Case ID.

Alternative Flows

Document other successful usage scenarios that can take place within this use case. State the alternative flow, and describe any differences in the sequence of steps that take place. Number each alternative flow in the form "X.Y", where "X" is the Use Case ID and Y is a sequence number for the alternative flow. For example, "5.3" would indicate the third alternative flow for use case number 5. Indicate where each alternative flow would branch off from the normal flow, and if pertinent, where it would rejoin the normal flow.

Exceptions

Describe any anticipated error conditions that could occur during execution of the use case and how the system is to respond to those conditions. Number each alternative flow in the form "X.Y.EZ", where "X" is the Use Case ID, Y indicates the normal (0) or alternative (>0) flow during which this exception could take place, "E" indicates an exception, and "Z" is a sequence number for the exceptions. For example "5.0.E2" would indicate the second exception for the normal flow for use case number 5. Indicate where in the normal (or an alternative) flow each exception could occur.

Priority

Indicate the relative priority of implementing the functionality required to allow this use case to be executed. Use the same priority scheme as that used for the functional requirements.

Frequency of Use

Estimate the number of times this use case will be performed per some appropriate unit of time. This gives an early indicator of throughput, concurrent usage loads, and transaction capacity.

Business Rules

List any business rules that influence this use case. Don't include the business rule text here, just its identifier so the reader can find it in another repository when needed.

Other Information

Identify any additional requirements, such as quality attributes, for the use case that may need to be addressed during design or implementation. Also list any associated functional requirements that aren't a direct part of the use case flows but which a developer needs to know about. Describe what should happen if the use case execution fails for some unanticipated or systemic reason (e.g., loss of network connectivity, timeout). If the use case results in a durable state change in a database or the outside world, state whether the change is rolled back, completed correctly, partially completed with a known state, or left in an undetermined state as a result of the exception.

Assumptions

List any assumptions that were made regarding this use case or how it might execute.

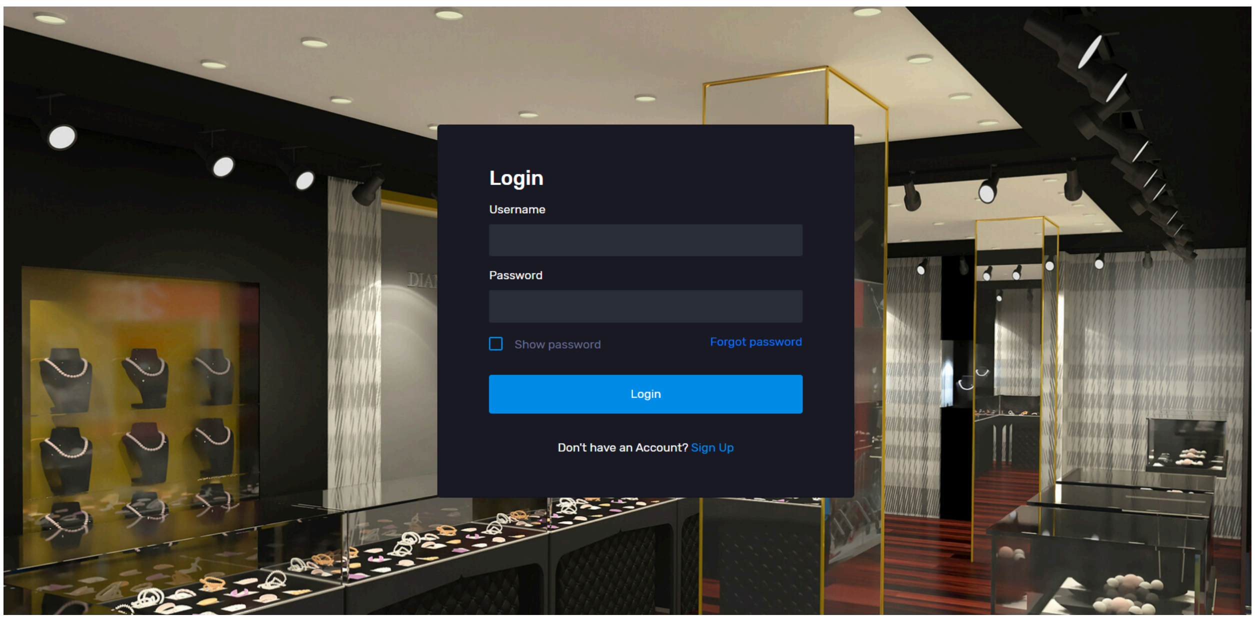
III. Design Specifications

1. <<Feature Name>>

1.1 <<SubFeature Name>>

a. <<Screen/Function Name>>

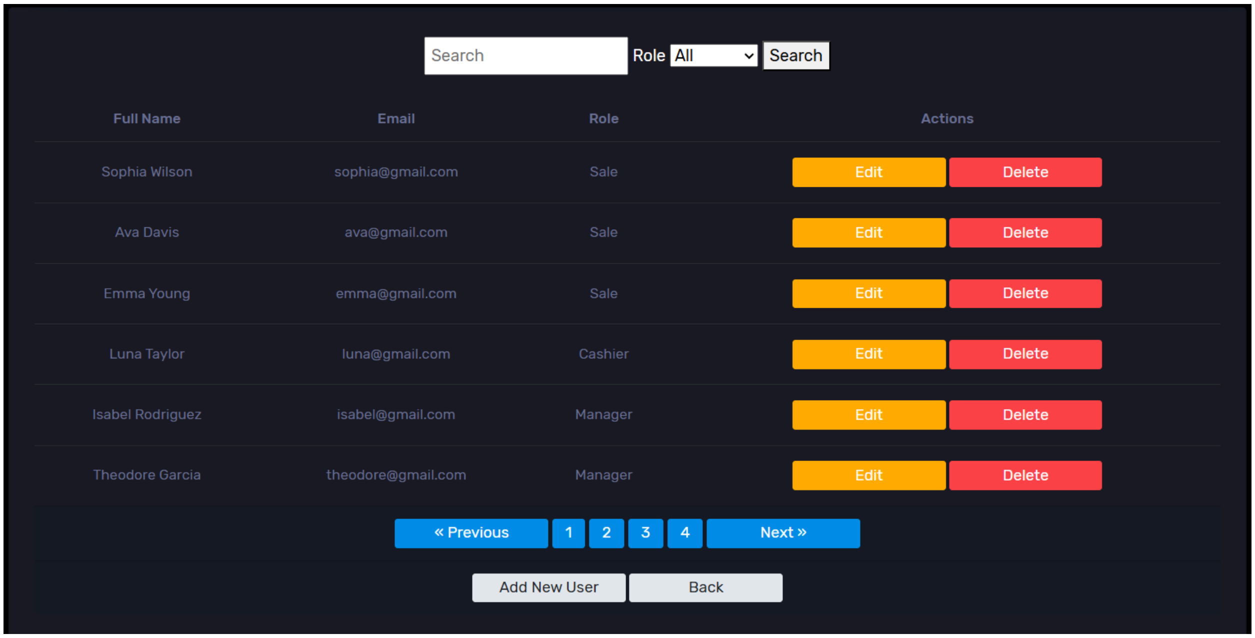
UI Design



Field Name	Field Type	Description
Username*	Text Box	This field allows the user to input their valid username. This username will be used for login authentication and communication. Ensure that the entered username is accurate and has been previously registered in the system.
Password*	Password Box	This field requires the user to enter their password. The password must match the one registered for the provided username. This field uses a password box type to obscure the password input for security purposes.
Login	Button	Clicking this button initiates the authentication process, validating the user's username and password. If the credentials are correct, the user will be granted access to the system.
Register	Button	Clicking this button redirects the user to the User Registration page, where they can create a new account to gain access to the system.
Forgot Password?	Hyperlink	Clicking this link redirects the user to the Password Reset page. Here, the user can reset their password if they have forgotten it.
Sign Up	Hyperlink	Clicking this button redirects the user to the Sign-Up page for creating a new account. This page will allow users to register and obtain login credentials if they do not already have an account.

b. Setting List

UI Design



User List

Search Fields

Field Name	Field Type	Description
Search	Text Box String (30)	Allows searching using the user's full name or email. Default value: blank.
Role	Combo Box Single-Choice	Contains the list of current roles (e.g., All, Sale, Cashier, Manager). Allows filtering the list by role. Default value: “All”.
Search Button	Button	Click to refresh the list with the defined filter(s) and search phrase.

Data Table

Field Name	Field Type	Description

Full Name	Text	Full name of the user.
Email	Text	Email address of the user.
Role	Text	Role of the user in the system (e.g., Sale, Cashier, Manager).
Actions	Action Icons	Actions available for each user, such as Edit and Delete.

Data Actions

Action	Icon	Description
Edit	icon	Click to open the User Details page for updating the relevant user (master data).
Delete	icon	Click to delete the relevant user.

Pagination

Field Name	Field Type	Description
Previous Button	Button	Click to navigate to the previous page of the user list.
Page Numbers	Button	Click to navigate to a specific page number in the user list.
Next Button	Button	Click to navigate to the next page of the user list.

Footer

Field Name	Field Type	Description
Add New User	Button	Click to open the Add User page for adding a new user (master data).
Back	Button	Click to navigate back to the previous page.

UI Design

UI Design: Jewelry Product List

Field Name	Field Type	Description
Search Box	Text Box	Allows the user to enter keywords to search for specific products.
Type Filter	Combo Box (Single-Choice)	Allows the user to filter the list by type of jewelry (e.g., All, Earrings, etc.).
Gemstone Filter	Combo Box (Single-Choice)	Allows the user to filter the list by gemstone type (e.g., All, Diamond, etc.).
Gold Filter	Combo Box (Single-Choice)	Allows the user to filter the list by gold type (e.g., All, 18K, 24K).
Search Button	Button	Triggers the search action based on the entered keywords and selected filters.

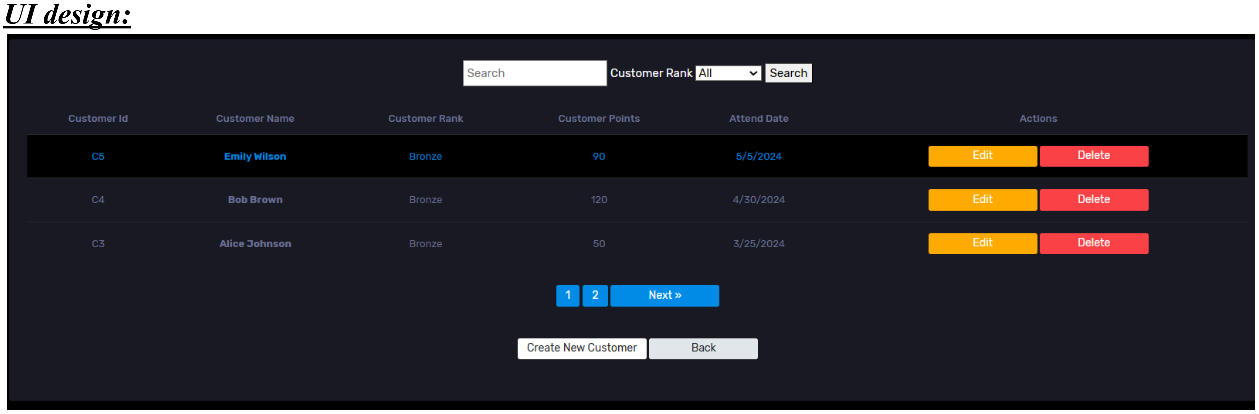
Field Name	Field Type	Description
Portrait	Image	Displays a small image of the product.
Name	Text	Displays the name of the product.

Type	Text	Displays the type of jewelry (e.g., Earrings, Ring, Bracelet, Necklace).
Buy Price	Currency	Displays the buying price of the product in Vietnamese dong (₫).
Sell Price	Currency	Displays the selling price of the product in Vietnamese dong (₫).

Field Name	Field Type	Description
Edit	Button	Allows the user to edit the product details.
Delete	Button	Allows the user to delete the product from the list.

Field Name	Field Type	Description
Pagination	Navigation Control	Allows the user to navigate through the pages of the product list.
Create New	Button	Opens a form to create a new product entry.
Back	Button	Navigates back to the previous screen.

UI design:



UI Design: Customer List

Field Name	Field Type	Description

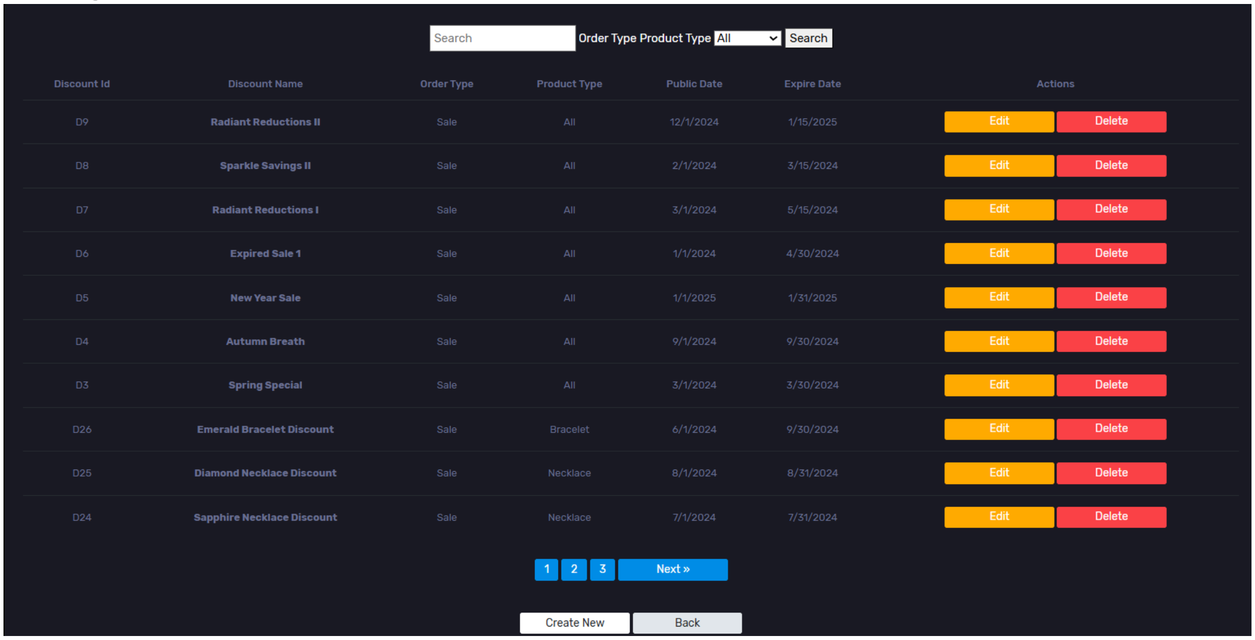
Search Box	Text Box	Allows the user to enter keywords to search for specific customers.
Customer Rank Filter	Combo Box (Single-Choice)	Allows the user to filter the list by customer rank (e.g., All, Bronze, Silver).
Search Button	Button	Triggers the search action based on the entered keywords and selected filters.

Field Name	Field Type	Description
Customer ID	Text	Displays the unique identifier of the customer.
Customer Name	Text	Displays the name of the customer.
Customer Rank	Text	Displays the rank of the customer (e.g., Bronze, Silver, Gold).
Customer Points	Number	Displays the number of points the customer has accumulated.
Attend Date	Date	Displays the date the customer last attended.

Field Name	Field Type	Description
Edit	Button	Allows the user to edit the customer details.
Delete	Button	Allows the user to delete the customer.

Field Name	Field Type	Description
Pagination	Navigation Control	Allows the user to navigate through the pages of the customer list.
Create New Customer	Button	Opens a form to create a new customer entry.
Back	Button	Navigates back to the previous screen.

UI design:



Search Fields

Field Name	Field Type	Description
Order Type	Combo Box (Single-Choice)	Filled with the list of current active order types. Allows filtering the list by order type. Default value is "All".
Product Type	Combo Box (Single-Choice)	Values: All (default), specific product types (e.g., Bracelet, Necklace). Allows filtering the list by product type. Default value: "All".
Search	Text Box	Allows searching using the discount name or ID. Default value: blank.
Search Button	Button	Click to refresh the list with the defined filter(s) and search phrase.

Data Table

Field Name	Field Type	Description
Discount Id	Text	Unique identifier for each discount.

Discount Name	Text	Name of the discount.
Order Type	Text	Type of order associated with the discount (e.g., Sale).
Product Type	Text	Type of product associated with the discount (e.g., All, Bracelet, Necklace).
Public Date	Date	The date when the discount becomes available to the public.
Expire Date	Date	The date when the discount expires.
Actions	Button	Buttons to perform actions on the discounts. The available actions are Edit and Delete.

Data Actions

Field Name	**Field Type**	**Description**
Edit	Button	Click to open the discount details page for updating the relevant discount.
Delete	Button	Click to delete the relevant discount.

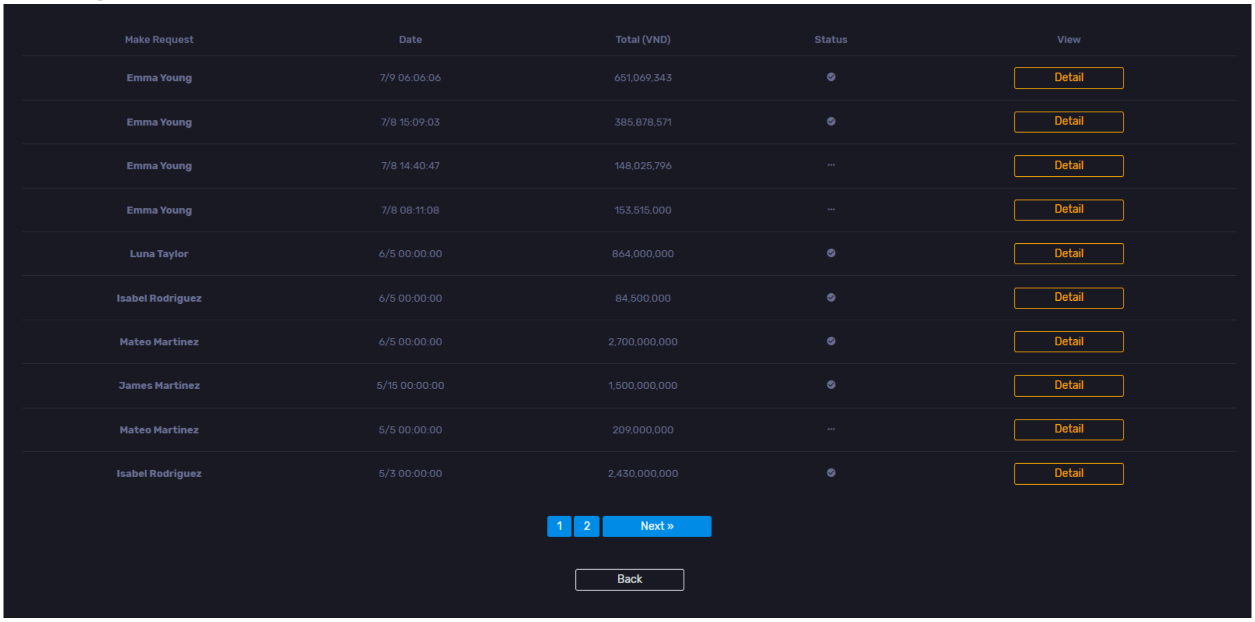
Additional Actions

Field Name	Field Type	Description
Create New	Button	Click to open the discount creation page for adding a new discount.
Back	Button	Click to go back to the previous page.

Pagination

Field Name	**Field Type**	**Description**
Pagination	Button	Buttons to navigate through multiple pages of discount records. Includes page numbers and navigation buttons (Next).

UI Design:



Data Table

Make Request	Date	Total (VND)	Status	View
Emma Young	7/9 06:06:06	651,069,343	✔	Detail
Emma Young	7/8 15:09:03	385,878,571	✔	Detail
Emma Young	7/8 14:40:47	148,025,796	...	Detail
Emma Young	7/8 08:11:08	153,515,000	...	Detail
Luna Taylor	6/5 00:00:00	864,000,000	✔	Detail
Isabel Rodriguez	6/5 00:00:00	84,500,000	✔	Detail
Mateo Martinez	6/5 00:00:00	2,700,000,000	✔	Detail
James Martinez	5/15 00:00:00	1,500,000,000	✔	Detail
Mateo Martinez	5/5 00:00:00	209,000,000	...	Detail
Isabel Rodriguez	5/3 00:00:00	2,430,000,000	✔	Detail

Pagination Controls

Control	Description
Page 1	Current page of the data table
Page 2	Next page of the data table
Next	Button to navigate to the next page
Back	Button to go back to the previous screen

Data Fields and Actions

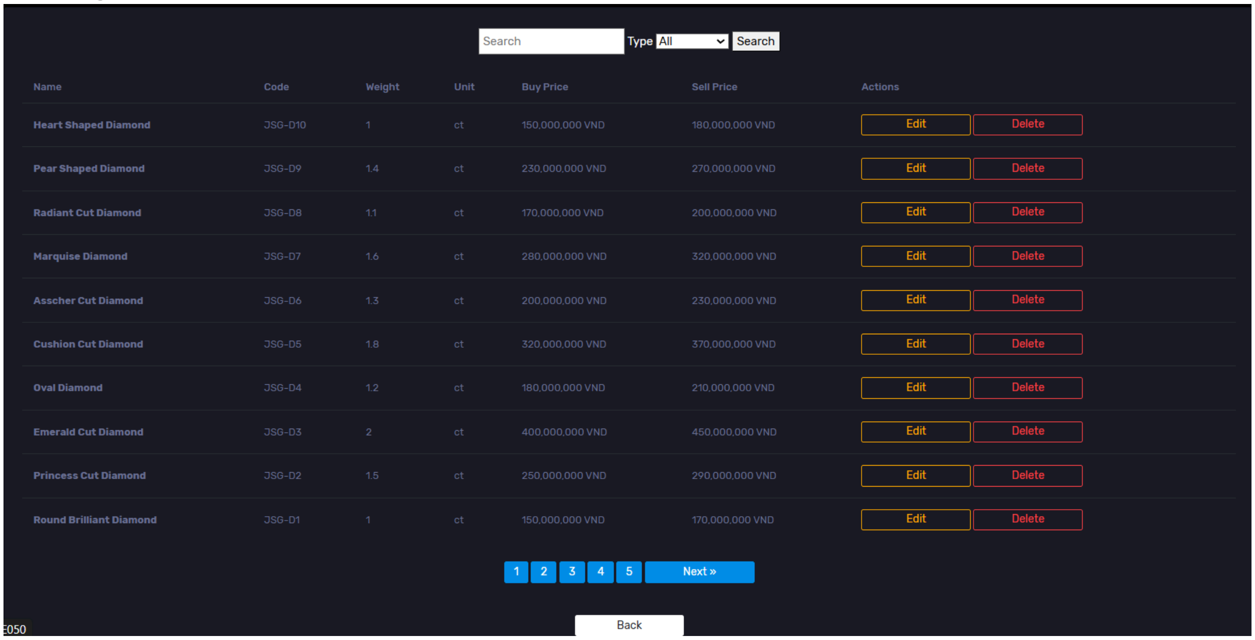
Data Table Fields

Field Name	Field Type	Description
Make Request	Text	Name of the person making the request
Date	Text (DateTime)	Date and time of the request
Total (VND)	Number	Total amount of the request in VND
Status	Icon	Status of the request (approved or pending)
View	Button	Button to view the details of the request

Data Actions

Action	Icon	Description
Detail	Button	Click to view the details of the request

UI Design:



Data Table

Name	Code	Weight	Unit	Buy Price	Sell Price	Actions
Heart Shaped Diamond	JSG-D10	1	ct	150,000,000 VND	180,000,000 VND	Edit Delete
Pear Shaped Diamond	JSG-D9	1.4	ct	230,000,000 VND	270,000,000 VND	Edit Delete
Radiant Cut Diamond	JSG-D8	1.1	ct	170,000,000 VND	200,000,000 VND	Edit Delete
Marquise Diamond	JSG-D7	1.6	ct	280,000,000 VND	320,000,000 VND	Edit Delete
Asscher Cut Diamond	JSG-D6	1.3	ct	200,000,000 VND	230,000,000 VND	Edit Delete
Cushion Cut Diamond	JSG-D5	1.8	ct	320,000,000 VND	370,000,000 VND	Edit Delete
Oval Diamond	JSG-D4	1.2	ct	180,000,000 VND	210,000,000 VND	Edit Delete

Emerald Cut Diamond	JSG-D3	2	ct	400,000,000 VND	450,000,000 VND	Edit Delete
Princess Cut Diamond	JSG-D2	1.5	ct	250,000,000 VND	290,000,000 VND	Edit Delete
Round Brilliant Diamond	JSG-D1	1	ct	150,000,000 VND	170,000,000 VND	Edit Delete

Search Fields

Field Name	Field Type	Description
Search	Text Box	Allows searching using diamond name, code, or other attributes
Type	Combo Box	Allows filtering by diamond type (default is "All")
Search Button	Button	Click to refresh the list with the defined filter(s) and search phrase

Data Fields and Actions

Data Table Fields

Field Name	Field Type	Description
Name	Text	Name of the diamond
Code	Text	Unique code identifier for the diamond
Weight	Number	Weight of the diamond (in carats)
Unit	Text	Unit of measurement (ct for carats)
Buy Price	Number	Purchase price of the diamond
Sell Price	Number	Selling price of the diamond
Actions	Button	Actions available for each diamond (Edit and Delete)

Data Actions

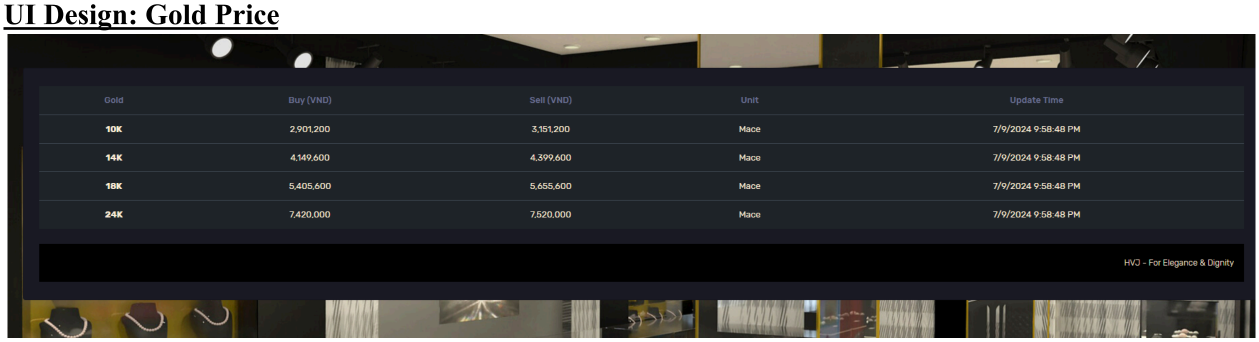
Action	Icon	Description
Edit	Button	Click to edit the diamond data

Delete	Button	Click to delete the diamond

Pagination Controls

Control	Description
Page 1	Current page of the data table
Page 2	Next page of the data table
Page 3	Third page of the data table
Page 4	Fourth page of the data table
Page 5	Fifth page of the data table
Next	Button to navigate to the next page
Back	Button to go back to the previous screen

UI Design: Gold Price



Gold	Buy (VND)	Sell (VND)	Unit	Update Time
10K	2,901,200	3,151,200	Mace	7/9/2024 9:58:48 PM
14K	4,149,600	4,399,600	Mace	7/9/2024 9:58:48 PM
18K	5,405,600	5,655,600	Mace	7/9/2024 9:58:48 PM
24K	7,420,000	7,520,000	Mace	7/9/2024 9:58:48 PM

Data Table Overview

The table displays gold prices with columns for the type of gold, buying and selling prices in Vietnamese Dong (VND), unit of measurement, and the last update time.

Field Name	Field Type	Description
Gold	Text	The type or karat of the gold (e.g., 10K, 14K, 18K, 24K).

Buy (VND)	Number	The buying price of the gold in Vietnamese Dong (VND).
Sell (VND)	Number	The selling price of the gold in Vietnamese Dong (VND).
Unit	Text	The unit of measurement for the gold price (e.g., Mace).
Update Time	Timestamp	The last update time of the data in the table.

Search Fields

Although not present in the provided image, search fields are typically used to filter and search data in the table. Here's a hypothetical structure for them:

Field Name	Field Type	Description
Gold Type	Combo Box	Allows filtering the list by the type of gold. Default value could be "All Types".
Price Range	Range Slider	Allows filtering the list by a specific price range.
Unit	Combo Box	Allows filtering the list by the unit of measurement. Default value could be "All Units".
Update Time	Date Picker	Allows filtering the list by a specific date or date range.
Search	Button	Click to refresh the list with the defined filter(s) and search criteria.

Data Actions

Data actions enable interaction with the table data, such as editing, activating, or deactivating records. Here are some common actions:

Action Name	Icon	Description
Edit	✎	Click to open the details page for updating the selected record.
Activate	⋆	Shown when the record is inactive. Click to activate the selected record.
Deactivate	⛔	Shown when the record is active. Click to deactivate the selected record.

Add New	➕	Click to open the details page for adding a new record.

Detailed Tables

Search Fields

Field Name	Field Type	Description
Gold Type	Combo Box	Allows filtering the list by the type of gold. Default value is "All Types".
Price Range	Range Slider	Allows filtering the list by a specific price range.
Unit	Combo Box	Allows filtering the list by the unit of measurement. Default value is "All Units".
Update Time	Date Picker	Allows filtering the list by a specific date or date range.
Search	Button	Click to refresh the list with the defined filter(s) and search criteria.

Data Table

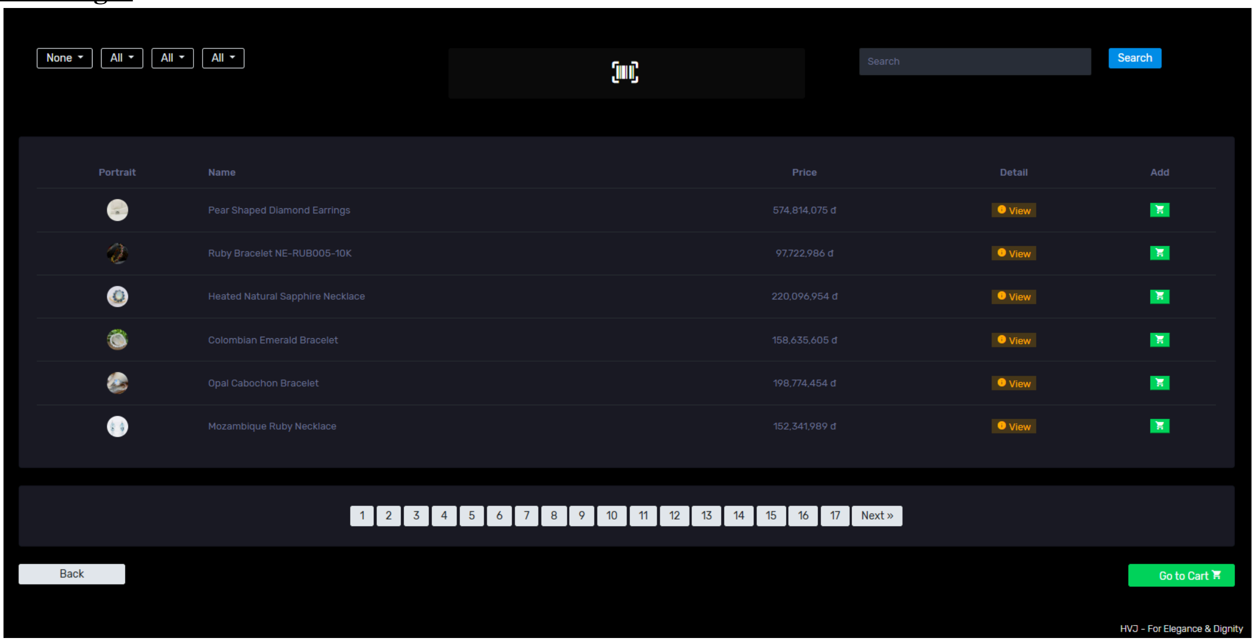
Field Name	Field Type	Description
Gold	Text	The type or karat of the gold (e.g., 10K, 14K, 18K, 24K).
Buy (VND)	Number	The buying price of the gold in Vietnamese Dong (VND).
Sell (VND)	Number	The selling price of the gold in Vietnamese Dong (VND).
Unit	Text	The unit of measurement for the gold price (e.g., Mace).
Update Time	Timestamp	The last update time of the data in the table.

Data Actions

Action Name	Icon	Description
Edit	✎	Click to open the details page for updating the selected record.
Activate	⋆	Shown when the record is inactive. Click to activate the selected record.

Deactivate	⛔	Shown when the record is active. Click to deactivate the selected record.
Add New	➕	Click to open the details page for adding a new record.

UI Design:



UI Design Analysis Document

Search Fields

Table 1: Search Fields

Field Name	Field Type	Description
Product Type	Combo Box	Allows filtering products by type.
Price Range	Combo Box	Allows filtering products by price range.
Brand	Combo Box	Allows filtering products by brand.

Other Filters	Combo Box	Allows filtering products by other criteria.
Search	Text Box	Allows searching for products by name or product code.
Search Button	Button	Click to perform the search with the defined filters and search terms.

Data Table

Table 2: Data Table

Field Name	Field Type	Description
Portrait	Icon	Displays an image of the product.
Name	Text	The name of the product.
Price	Text	The price of the product.
Detail	Button	Button to view the product details.
Add to Cart	Button	Button to add the product to the cart.

Data Actions

Table 3: Data Actions

Field Name	Field Type	Description
View Detail	Icon	Click to open the product detail page for more information.
Add to Cart	Icon	Click to add the product to the cart.
Pagination	Button	Buttons to navigate through the pages of products.
Back Button	Button	Button to go back to the previous page.
Go to Cart	Button	Button to proceed to the cart.

Detailed Descriptions

Search Fields

1. **Product Type**:
   - **Field Type**: Combo Box
   - **Description**: This field allows users to filter the list of products by their type. For instance, users can select "Earrings", "Necklaces", "Bracelets", etc., to narrow down the search to specific product categories.

2. **Price Range**:
    - **Field Type**: Combo Box
    - **Description**: This field enables users to filter products based on their price range. Users can select predefined ranges such as "Under $100", "$100 - $500", "$500 - $1000", etc., to find products that fit their budget.
3. **Brand**:
    - **Field Type**: Combo Box
    - **Description**: This field provides users with the option to filter products by their brand. Users can choose from a list of available brands to see products from a specific brand only.
4. **Other Filters**:
    - **Field Type**: Combo Box
    - **Description**: This field allows users to apply additional filters to refine their search further. These filters could include criteria such as "New Arrivals", "On Sale", "Best Sellers", etc.
5. **Search**:
    - **Field Type**: Text Box
    - **Description**: Users can type in this text box to search for products by their name or product code. This is useful for users who know exactly what they are looking for.
6. **Search Button**:
    - **Field Type**: Button
    - **Description**: Clicking this button will execute the search based on the criteria specified in the above fields. The results will be displayed in the data table below.

Data Table

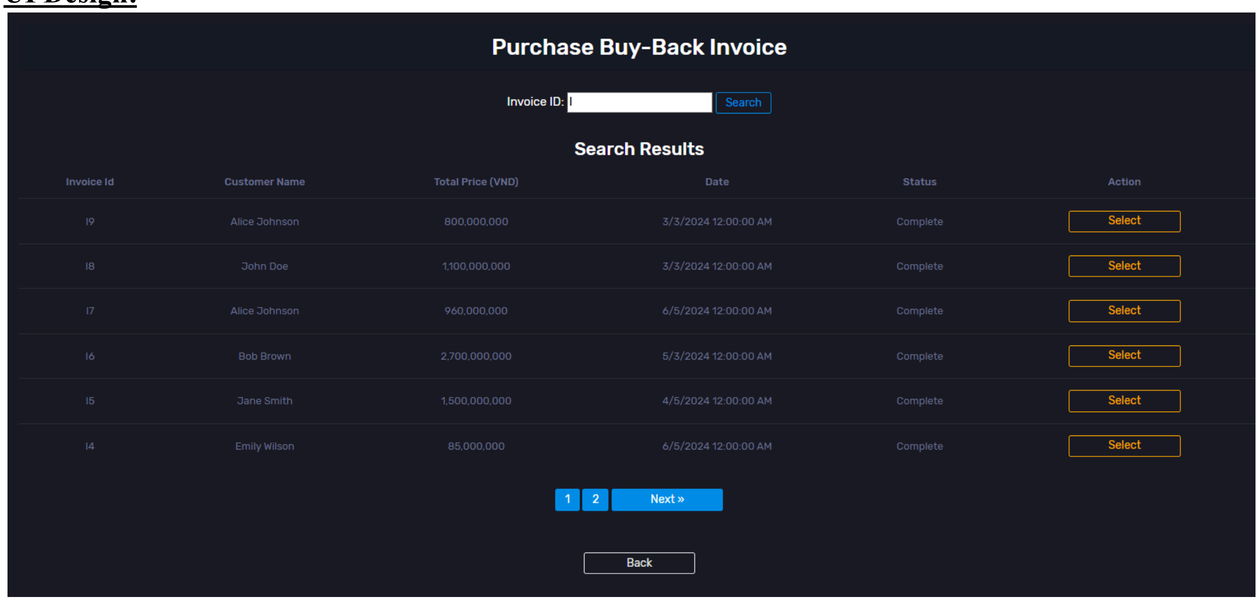
1. **Portrait**:
    - **Field Type**: Icon
    - **Description**: Displays a small image or thumbnail of the product. This helps users to quickly recognize the product visually.
2. **Name**:
    - **Field Type**: Text
    - **Description**: The name of the product. This field provides the product's name, which is essential for identifying and differentiating products.
3. **Price**:
    - **Field Type**: Text
    - **Description**: The price of the product. This field shows the cost of the product, which is a critical factor for most purchasing decisions.
4. **Detail**:
    - **Field Type**: Button
    - **Description**: A button that users can click to view more detailed information about the product. This could include product specifications, customer reviews, and additional images.
5. **Add to Cart**:
    - **Field Type**: Button
    - **Description**: A button that allows users to add the product to their shopping cart. This facilitates the process of selecting and purchasing multiple products.

Data Actions

1. **View Detail**:

- **Field Type**: Icon
    - **Description**: Click this icon to open a detailed page about the product. This page will typically provide comprehensive information about the product, including its features, specifications, and customer reviews.
2. **Add to Cart**:
    - **Field Type**: Icon
    - **Description**: Click this icon to add the product to the shopping cart. This is a convenient way for users to select multiple products for purchase.
3. **Pagination**:
    - **Field Type**: Button
    - **Description**: These buttons allow users to navigate through multiple pages of product listings. This is useful when there are many products, and they can't all be displayed on a single page.
4. **Back Button**:
    - **Field Type**: Button
    - **Description**: Click this button to return to the previous page. This provides an easy way for users to navigate back if they need to revisit previous search results or product listings.
5. **Go to Cart**:
    - **Field Type**: Button
    - **Description**: Click this button to proceed to the shopping cart. This is the final step before checkout, where users can review their selected products and make a purchase.

<u>UI Design:</u>



Purchase Buy-Back Invoice Analysis

Search Fields

Table 1: Search Fields

Field Name	Field Type	Description
Invoice ID	Text Box	Allows users to enter the invoice ID to search for a specific invoice.
Search Button	Button	Click to perform the search for the invoice ID entered in the text box.

Search Results

Table 2: Search Results

Field Name	Field Type	Description
Invoice Id	Text	The unique identifier for the invoice.
Customer Name	Text	The name of the customer.
Total Price	Text	The total price of the invoice.
Date	Text	The date when the invoice was created.
Status	Text	The status of the invoice (e.g., Complete).
Action	Button	Button to select the invoice for further actions.

Data Actions

Table 3: Data Actions

Field Name	Field Type	Description
Select	Button	Click to select the invoice for further processing.
Pagination	Button	Buttons to navigate through multiple pages of search results.
Back Button	Button	Button to go back to the previous page.

Detailed Descriptions

Search Fields

1. **Invoice ID**:

  - **Field Type**: Text Box
  - **Description**: This field allows users to input an invoice ID to search for a specific invoice. It helps users quickly locate an invoice if they know its unique identifier.
2. **Search Button**:
  - **Field Type**: Button
  - **Description**: Clicking this button will perform the search for the invoice based on the ID entered in the text box. The search results will be displayed below.

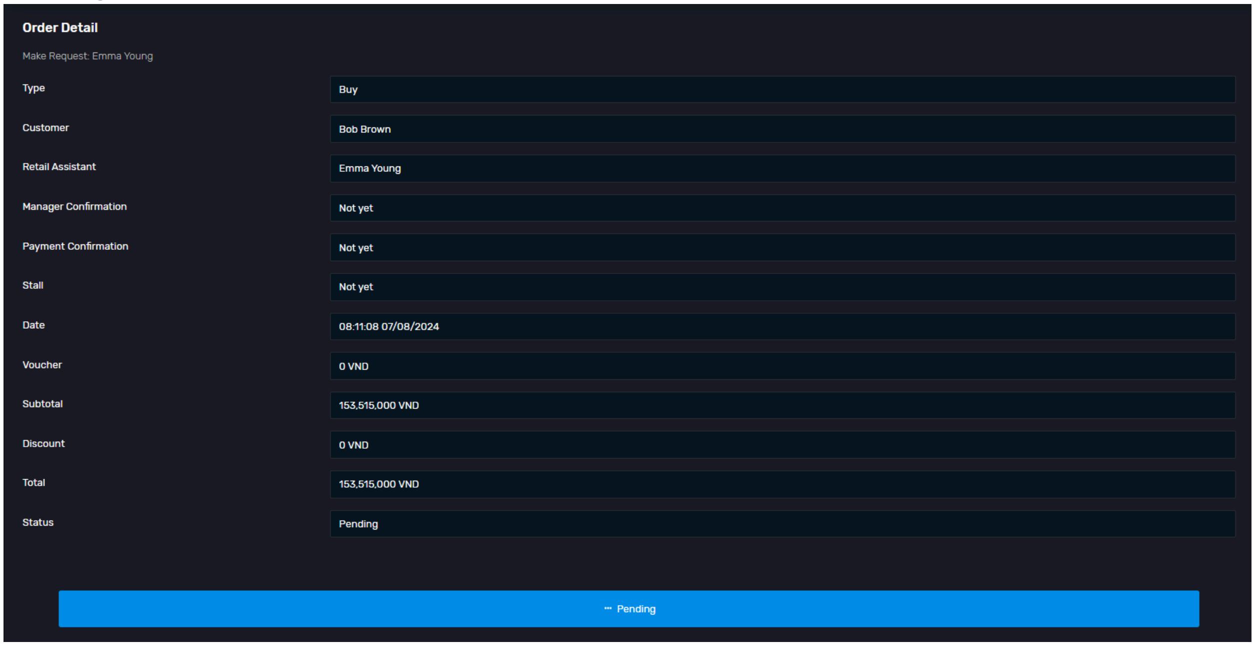
Search Results

1. **Invoice Id**:
  - **Field Type**: Text
  - **Description**: The unique identifier for the invoice. This field helps users to identify and reference specific invoices easily.
2. **Customer Name**:
  - **Field Type**: Text
  - **Description**: The name of the customer associated with the invoice. This field helps in identifying which customer the invoice belongs to.
3. **Total Price**:
  - **Field Type**: Text
  - **Description**: The total amount billed in the invoice. This is important for financial and accounting purposes.
4. **Date**:
  - **Field Type**: Text
  - **Description**: The date when the invoice was created. This helps in tracking the timeline of transactions.
5. **Status**:
  - **Field Type**: Text
  - **Description**: The current status of the invoice (e.g., Complete, Pending). This indicates the progress or completion of the transaction.
6. **Action**:
  - **Field Type**: Button
  - **Description**: A button that allows users to select the invoice for further actions, such as viewing details or processing returns.

Data Actions

1. **Select**:
  - **Field Type**: Button
  - **Description**: Click this button to select the invoice for further processing. This action might lead to more detailed views or additional options for handling the invoice.
2. **Pagination**:
  - **Field Type**: Button
  - **Description**: These buttons enable users to navigate through multiple pages of search results. This is useful when the search returns a large number of invoices.
3. **Back Button**:
  - **Field Type**: Button
  - **Description**: Click this button to return to the previous page. This provides easy navigation for users to go back if needed.

UI Design: Order Detail



Order Detail Table Analysis

Field Name	Field Type	Description
Type	Text	Type of the order (e.g., Buy, Sell)
Customer	Text	Name of the customer (e.g., Bob Brown)
Retail Assistant	Text	Name of the retail assistant (e.g., Emma Young)
Manager Confirmation	Text	Status of manager's confirmation (e.g., Not yet)
Payment Confirmation	Text	Status of payment confirmation (e.g., Not yet)
Stall	Text	Stall information (e.g., Not yet)
Date	DateTime	Date and time of the order (e.g., 08:11:08 07/08/2024)
Voucher	Currency	Value of the voucher applied (e.g., 0 VND)
Subtotal	Currency	Subtotal amount of the order (e.g., 153,515,000 VND)
Discount	Currency	Discount applied to the order (e.g., 0 VND)
Total	Currency	Total amount of the order (e.g., 153,515,000 VND)
Status	Text	Current status of the order (e.g., Pending)

Order Detail Actions

Action	Type	Description
Pending	Button	Button to update the order status to pending.

IV. Appendix

1. Assumptions & Dependencies

Assumptions & Dependencies
Assumptions

1. AS-1: The system interfaces for barcode scanning and manual item entry are reliable and can handle the expected volume of transactions.
2. AS-2: Printers for invoices and warranty cards are available and compatible with the system.
3. AS-3: The store has a stable and fast internet connection to support real-time data updates and synchronization.
4. AS-4: Employees are trained to use the system efficiently.
5. AS-5: The gold price table is updated regularly and accurately.

Dependencies

1. DE-1: The system must integrate with the barcode scanners and printers used at the store.
2. DE-2: The system relies on up-to-date gold price information from a reliable source.
3. DE-3: The promotional policies and discount approvals must be clearly defined and accessible within the system.
4. DE-4: There must be a secure and reliable database to store all transaction, customer, and product data.
5. DE-5: The system must support multi-device synchronization for displaying gold prices on TV screens.

Possible Scenarios
Sales Order Creation

1. Standard Sales Order:

- Customer selects items.
- Items are scanned using a barcode scanner.
- The system calculates the total price using the formula provided.
- Invoice and warranty card are printed.
- System updates inventory and sales data.
-

2. Manual Item Entry:

- Customer selects items.
- Salesperson manually enters item codes into the system.
- The system calculates the total price using the formula provided.
- Invoice and warranty card are printed.
- System updates inventory and sales data.

3. Promotional Discounts:

- The system identifies if the sale falls within a promotional period.
- Applicable discounts are automatically applied.
- Salesperson requests manager approval for additional customer-specific discounts.
- Manager approves, and the system applies the discount.
- Invoice and warranty card are printed.
- System updates inventory and sales data.

Buy-Back Process

1. Standard Buy-Back:
- Customer returns with jewelry.
- Salesperson finds the original sales invoice in the system.
- For regular jewelry, only the gold part is bought back.
- For precious stones, the buy-back price is calculated as a percentage of the original sale price.
- System generates a buy-back invoice.
- Inventory and financial records are updated.

2. Special Buy-Back:

- Customer returns with jewelry and requests buy-back during a promotional period.
- System applies promotional buy-back rates if applicable.
- Buy-back invoice is generated.
- Inventory and financial records are updated.

Gold Price Display

1. Regular Update:
- The gold price table is updated regularly from a reliable source.
- The system updates gold prices on TV screens in the store in real-time.
- Any discrepancies are flagged for manual review.

Loyalty Points Management

1. Point Accumulation:
- Customer makes a purchase.
- The system calculates loyalty points based on the purchase amount.
- Points are added to the customer's account.
- Customer can redeem points on future purchases.

2. Point Redemption:
- Customer opts to use loyalty points for a purchase.
- System applies the points as a discount on the total bill.
- Updated loyalty points balance is shown on the invoice.
- System updates the customer's loyalty account.

Employee and Sales Management

1. Employee Sales Tracking:
- Each sale is tagged with the salesperson’s ID.
- The system tracks sales per employee.
- Sales data is used to calculate commissions and bonuses.

2. Quay Sales Tracking:
- Sales data is aggregated per quầy (counter).
- Managers can view sales performance for each quầy.
- The system generates reports for revenue, inventory turnover, and employee performance.

Product Management

1. Inventory Management:
- New products are added to the system with all necessary details (price, weight, etc.).
- The system supports bulk uploads via CSV or direct entry.
- Inventory levels are updated in real-time based on sales and buy-backs.

2. Price Management:
- The system allows for the entry of product prices.
- Prices are updated based on changes in gold prices or promotional adjustments.
- Historical price changes are logged for audit purposes.

Return and Exchange Policy

1. Return Processing:
- Customer returns an item.
- The system checks the return policy conditions.
- If conditions are met, the system processes the return and updates inventory.
- A return invoice is generated.

2. Exchange Processing:
- Customer wants to exchange an item.
- The system checks the exchange policy conditions.
- If conditions are met, the system processes the exchange.
- The price difference (if any) is calculated, and inventory is updated.

Dashboard and Reporting

1. Real-Time Dashboard:
- Managers can view real-time data on sales, inventory, employee performance, and customer activity.
- The dashboard includes charts, graphs, and key performance indicators (KPIs).

2. Reporting:
- The system generates detailed reports on sales, promotions, buy-backs, inventory, and employee performance.
- Reports can be customized and exported in various formats (PDF, Excel, etc.).

2. Limitations & Exclusions

Limitations

1. **Limited Multi-Store Support:**
    - **Explanation:** The system is designed to manage sales and inventory for a single store with multiple counters only.
    - **Impact:** Expansion to multiple store locations will require significant modifications or a separate system.
2. **Basic Loyalty Program Features:**
    - **Explanation:** The system offers basic functionality for loyalty point accumulation and redemption.
    - **Impact:** Advanced loyalty program features like tier-based rewards, referral bonuses, and automatic birthday discounts are not included.
3. **No Integrated Online Sales:**
    - **Explanation:** The system is focused on in-store sales and does not include functionality for managing online orders.
    - **Impact:** A separate platform will be needed to handle e-commerce activities.
4. **Limited Customer Relationship Management (CRM):**
    - **Explanation:** Basic customer information and purchase history tracking are included, but advanced CRM features are not.
    - **Impact:** Features like automated marketing campaigns, customer segmentation, and detailed customer analytics are excluded.
5. **Manual Promotional Approval:**
    - **Explanation:** Promotional discounts and special customer-specific discounts require manual approval by a manager.
    - **Impact:** This could slow down the sales process and may not be suitable for high-volume sales environments.
6. **Basic Reporting and Analytics:**
    - **Explanation:** The system provides basic reports on sales, inventory, and employee performance.
    - **Impact:** Advanced data analytics, predictive modeling, and detailed financial forecasting are not included.
7. **No Integration with External Accounting Systems:**
    - **Explanation:** The system does not directly integrate with external accounting or ERP systems.
    - **Impact:** Financial data must be manually exported and imported into other systems, which may increase the risk of errors.
8. **Limited Mobile Device Support:**
    - **Explanation:** The system is primarily designed for desktop use and does not fully support mobile devices or tablets.
    - **Impact:** Users may find it challenging to access the system on mobile devices, limiting flexibility.

Exclusions

1. **Advanced Inventory Management Features:**
    - **Explanation:** Features like automatic stock reordering, supplier management, and detailed inventory forecasting are not included.
    - **Impact:** Inventory must be manually managed, which could lead to inefficiencies and stock discrepancies.

2. **Advanced Security Features:**
    - **Explanation:** The system includes basic user authentication and authorization but lacks advanced security measures.
    - **Impact:** Features like multi-factor authentication, advanced encryption, and intrusion detection systems are excluded.
3. **Customizable User Interfaces:**
    - **Explanation:** The user interface is standard and not highly customizable to individual user preferences.
    - **Impact:** Users must adapt to the provided interface, which may not meet specific user needs or preferences.
4. **Advanced Customer Feedback and Review System:**
    - **Explanation:** The system does not include features for collecting and analyzing customer feedback and reviews.
    - **Impact:** Stakeholders will need a separate system to gather and analyze customer feedback.
5. **Integrated Supplier Management:**
    - **Explanation:** The system does not include functionalities for managing supplier relationships and procurement processes.
    - **Impact:** Supplier management must be handled outside of the system, potentially complicating procurement.
6. **Real-Time Financial Analysis:**
    - **Explanation:** The system does not support real-time financial analysis and reporting.
    - **Impact:** Financial data must be processed manually for detailed analysis, leading to potential delays and inaccuracies.
7. **Complex Custom Order Management:**
    - **Explanation:** The system handles standard product sales but does not include features for managing complex custom jewelry orders.
    - **Impact:** Custom orders need to be tracked and managed manually, which may be less efficient and error-prone.

3. Business Rules

ID	Category	Rule Definition
BR-01	Constraints	Delivery time windows are 15 minutes, beginning on each quarter hour.
BR-02	Constraints	Deliveries must be completed between 10:00 A.M. and 2:00 P.M. local time, inclusive.
BR-08	Constraints	The store only buys back the actual gold content of regular jewelry items with gemstones.
BR-03	Facts	All jewelry items in a single order must be delivered to the same location.
BR-04	Facts	All jewelry items in a single order must be paid for using the same payment method.
BR-12	Facts	Display of gold prices on TV screens in the store.
BR-05	Computations	Sale price is calculated as the product cost price * markup rate.
BR-07	Computations	Discount on the sales invoice is calculated as the sum of company promotion discounts (if any) and customer discount policy discounts (if any).
BR-09	Computations	The buyback price for gemstones is calculated at a rate declared in the system (e.g., 70% of the selling price).
BR-11	Computations	Accumulation of loyalty points for customers based on the total value of purchases.
BR-13	Computations	Management of sales staff for each counter, revenue management for each counter and each employee.
BR-14	Computations	Declaration of jewelry products available in the counter, price list, ...
BR-15	Computations	Statistics dashboard.
BR-06	Constraints	Sales orders for jewelry must be created during store operating hours.
BR-10	Constraints	The purchase of gemstones must adhere to current market prices as per the system's price list.
BR-16	Facts	Management of return policies for jewelry items must be defined and enforced in the system.
BR-17	Computations	Calculation of the total sale amount for each jewelry transaction, including taxes and any applicable delivery charges.
BR-18	Computations	Generation of warranty certificates for jewelry items purchased, including details like product type, purchase date, and warranty period.

BR-19	**Computations**	**Calculation of sales commission for sales staff based on individual sales performance and store targets.**
BR-20	**Computations**	**Dashboard for comprehensive statistical analysis, including sales revenue, product inventory levels, and customer loyalty trends.**

4. Data Requirements

Requirement Analysis

1. **Customer Information:**
   - **Data Needed:** Customer name, contact information (phone number, email), address for delivery, purchase history (including items purchased and dates), loyalty program membership status.
   - **Purpose:** To maintain a database of customer profiles for personalized marketing, order processing, and customer service.
2. **Product Details:**
   - **Data Needed:** Product name, description, category (e.g., rings, necklaces, bracelets), SKU (Stock Keeping Unit), barcode, supplier information, cost price, selling price, current inventory levels.
   - **Purpose:** To manage inventory effectively, track product performance, and facilitate accurate sales transactions.
3. **Pricing Data:**
   - **Data Needed:** Pricing rules (e.g., markup percentages, discount structures), promotional pricing details, tax rates applicable to jewelry items.
   - **Purpose:** To ensure consistency in pricing across products, apply promotions correctly, and calculate total transaction amounts accurately.
4. **Sales Transactions:**
   - **Data Needed:** Date and time of sale, items purchased (including quantities), payment method, total amount paid, salesperson ID, transaction ID.
   - **Purpose:** To record and track all sales activities, analyze sales trends, and generate financial reports.
5. **Loyalty Program Records:**
   - **Data Needed:** Points accumulated by customers, redemption history, eligibility criteria for earning points, rewards offered.
   - **Purpose:** To manage customer loyalty programs, incentivize repeat purchases, and enhance customer retention.

5. System Architecture

Architecture Design

1. **Hardware Requirements:**
   - **Components:** TV screens for displaying gold prices and promotional messages, POS (Point of Sale) terminals at each counter for transaction processing.

- **Purpose:** To provide a user-friendly interface for customers and staff, support sales operations, and enhance customer engagement through promotional displays.

2. **Software Components:**
    - **Database Management System (DBMS):** Central database to store and manage customer data, product details, pricing information, and transaction records securely.
    - **Sales Management Software:** Application to handle sales transactions, inventory management, pricing calculations, and loyalty program tracking.
    - **Integration Points:**
        - **Payment Gateways:** Integration with payment processors to facilitate secure and efficient payment transactions.
        - **Inventory Management:** Integration to synchronize inventory levels and automate stock replenishment based on sales data and trends.
3. **Integration with External Systems:**
    - **Purpose:** To streamline operations, ensure real-time data updates across systems, and provide seamless customer service and transaction experiences.

6. Security Considerations

Security Analysis

1. **Data Protection:**
    - **Measures:** Encryption of sensitive data (e.g., customer information, transaction records) both in transit and at rest.
    - **Purpose:** To prevent unauthorized access and data breaches, ensuring compliance with data protection regulations (e.g., GDPR, CCPA).
2. **Access Control:**
    - **Implementation:** Role-based access control (RBAC) to restrict system access based on user roles (e.g., sales staff, managers).
    - **Purpose:** To limit access to sensitive information and functionalities only to authorized personnel, minimizing the risk of internal threats.
3. **Secure Transactions:**
    - **Protocols:** Use of secure communication protocols (e.g., HTTPS) for online transactions and payment processing.
    - **Purpose:** To safeguard customer payment information and ensure secure financial transactions.
4. **Regular Audits and Monitoring:**
    - **Practices:** Regular security audits, vulnerability assessments, and monitoring of system logs for suspicious activities.
    - **Purpose:** To proactively identify and mitigate security risks, maintaining the integrity and reliability of the jewelry sales management system.