

**HANOI UNIVERSITY OF SCIENCE AND
TECHNOLOGY**

School of Information and communications technology

Software Requirement Specification

Version 1.2

Project: AIMS – An Internet Media Store

Subject: ITSS Software Development

Group 13

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1 Introduction

1.1 Objective

This document outlines the functional and non-functional requirements for the AIMS e-commerce software. The document serves as a comprehensive reference for developers, testers, and stakeholders, ensuring a shared understanding of the system's capabilities, constraints, and expected behavior.

This SRS aims to facilitate clear communication and collaboration among Software Developers and all stakeholders involved in the AIMS project.

1.2 Scope

1.2.1 Software Product(s) to be produced

- **AIMS Web Application:** A client application for managing media products, user accounts, and customer orders.
- **AIMS Server Application:** A backend server handling business logic, database operations, and integration with external services like VN Pay for payment processing.

1.2.2 Functional Capabilities

- **Product Management:** Product managers can add, edit, view, and delete products. Specific details for different media types must be provided, such as authors for books and artists for CDs.
- **User Management:** Administrators can create, update, and delete user accounts, assign roles, and reset passwords.
- **Order Processing and Purchasing:** Customers can browse products, add items to their cart, and complete purchases. The system will handle cart management, order validation, delivery information, and payment processing through VN Pay. Customers can review their cart, update quantities, and receive notifications if product quantities are insufficient. Product managers need to confirm and reject pending orders.

1.3 Glossary

<i>No</i>	<i>Term</i>	<i>Explanation</i>	<i>Example</i>	<i>Note</i>
1	token	A piece of data created by server, and contains the user's information, as well as a special token code that user can pass to the server with every method that supports authentication, instead of passing a	JSON Web Token (JWT)	Compact, URL-safe and usable especially in web browser single sign-on (SSO) context.

<i>No</i>	<i>Term</i>	<i>Explanation</i>	<i>Example</i>	<i>Note</i>
		username and password directly.		
2	API (Application Programming Interface)	A set of protocols and tools for building software applications that can access the features or data of an existing system.	VN Pay API	
3	Payment Gateway	A secure online service that authorizes payments made through electronic methods such as credit cards.	VN Pay	
4	CRUD	Four basic functions, namely Create, Retrieve, Update, Delete		
5	E-commerce	E-commerce (electronic commerce) refers to the buying and selling of goods and services over the internet.		

1.4 References

2 Overall Description

2.1 Survey

The system being developed is an internet-based media store that enables customers to purchase products online. This software functions as a comprehensive platform, catering not only to customers but also to store managers and product administrators.

The system involves three primary user roles:

- **Customer:** Customers can browse, search for, and sort available products based on various criteria. To place an order, they must add products to their cart, update the selection as needed, and provide delivery details. Once all required information is submitted, customers complete their purchase through VNPay. Upon successful order creation, AIMS will send an order confirmation email to the customer. In certain cases, customers also have the option to place rush orders for urgent deliveries.
- **Product Manager:** Product managers oversee inventory management through the AIMS software interface. They can add, remove, or update product details. Additionally, under specific circumstances, they can apply discounts or promotions to selected products.
- **Administrator:** Administrators have the authority to manage users within the system. They can block or unblock customers and product managers, with the system automatically sending a notification email to the affected account. Furthermore, administrators can modify user roles, allowing an individual to function as both a customer and a product manager simultaneously.

Apart from these roles, **VN Pay** is also a stakeholder in the system, providing the API necessary for processing transactions within the AIMS platform.

2.2 Overall requirements

The figure below shows the general use case diagram of AIMS software, which includes the actors and use cases that are involved in the systems.

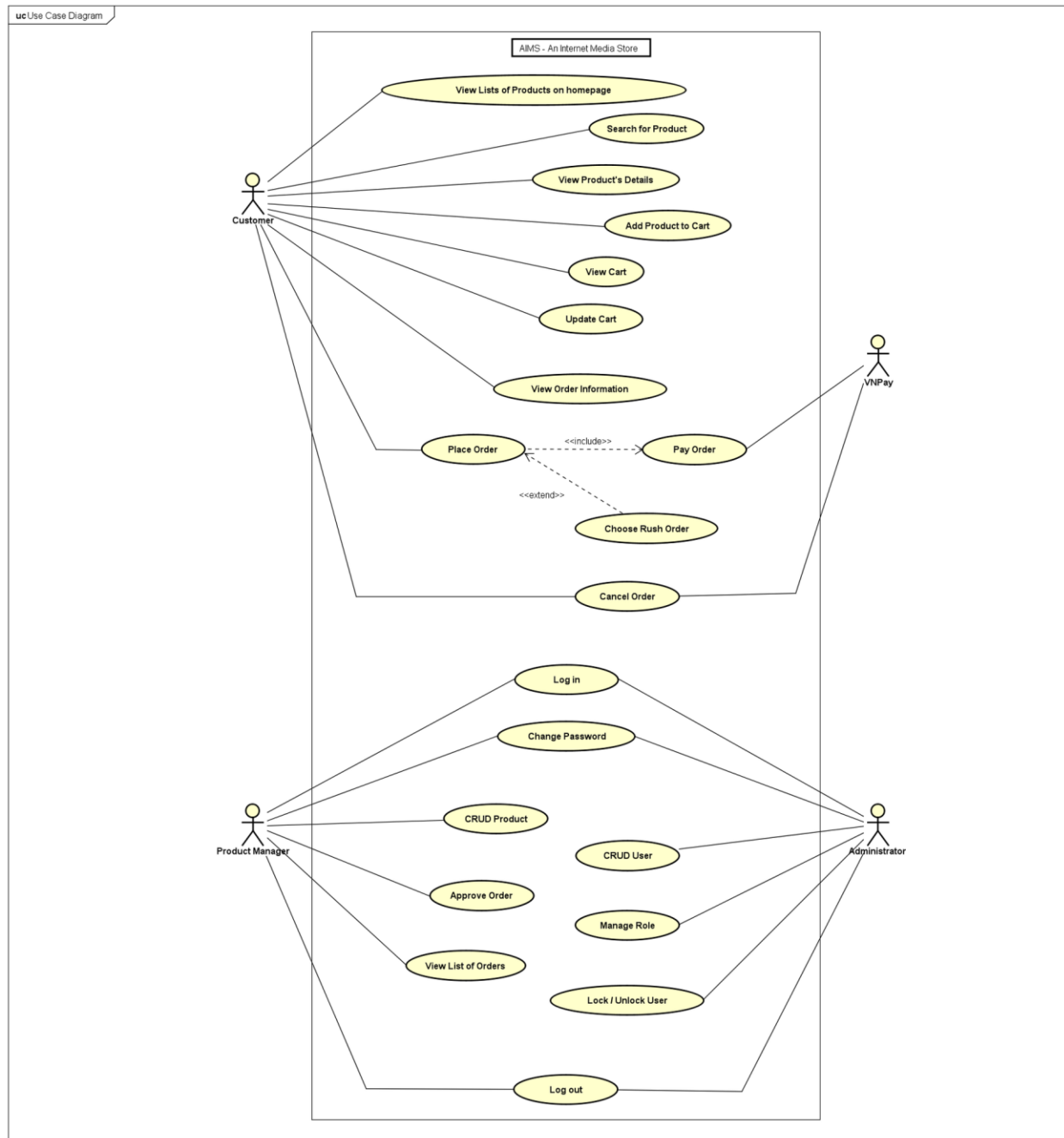


Figure 1: Overall user case diagram

2.3 Business process

There are several core business operations: pay order, view product details, add/update product, place order, place rush order, ... They can be visualized by the following activity diagrams.

2.3.1 Pay order

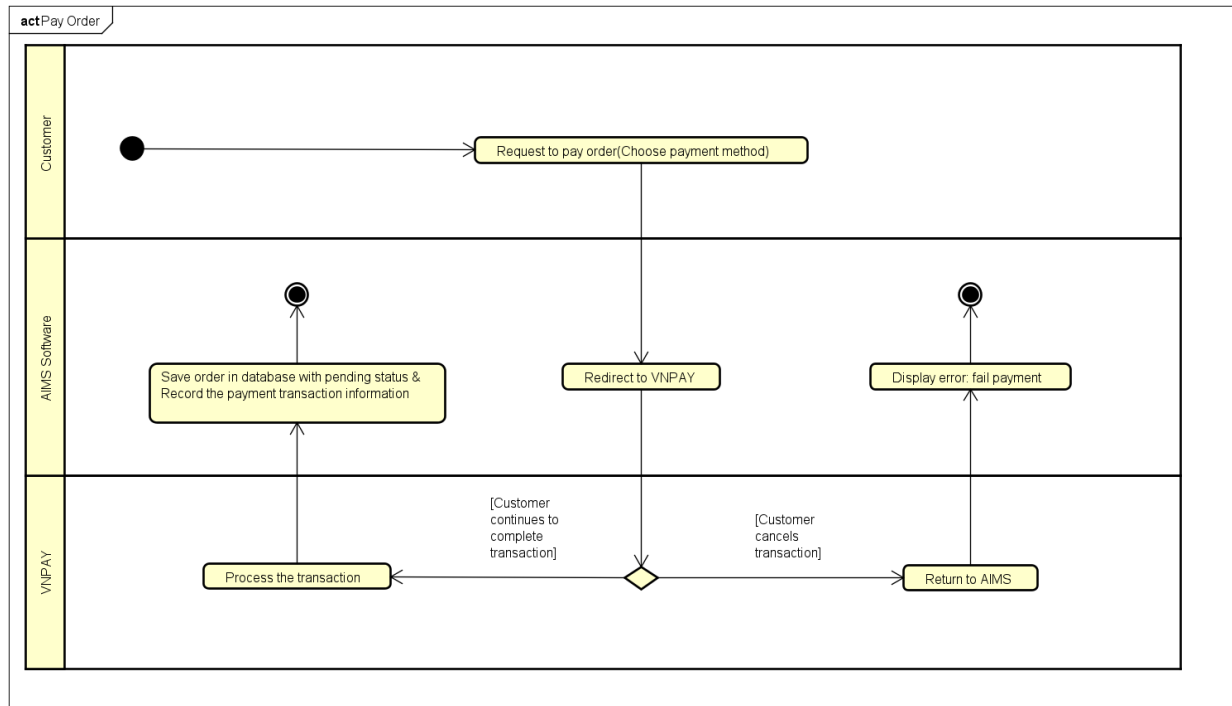


Figure 2: "Pay order" Activity diagram

2.3.2 View product details

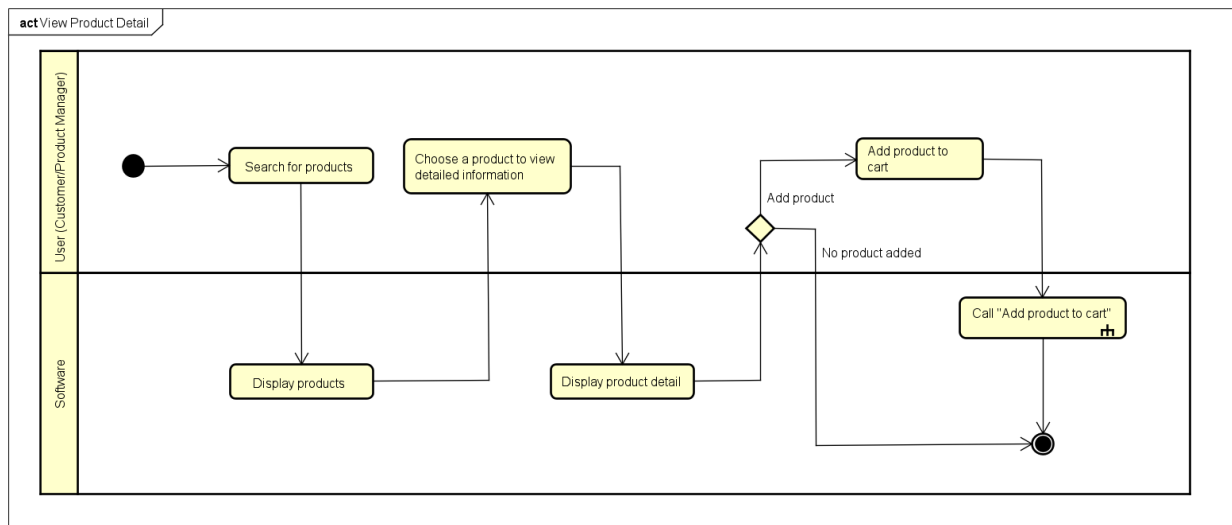


Figure 3: "View prod details" Activity diagram

2.3.3 Add a product

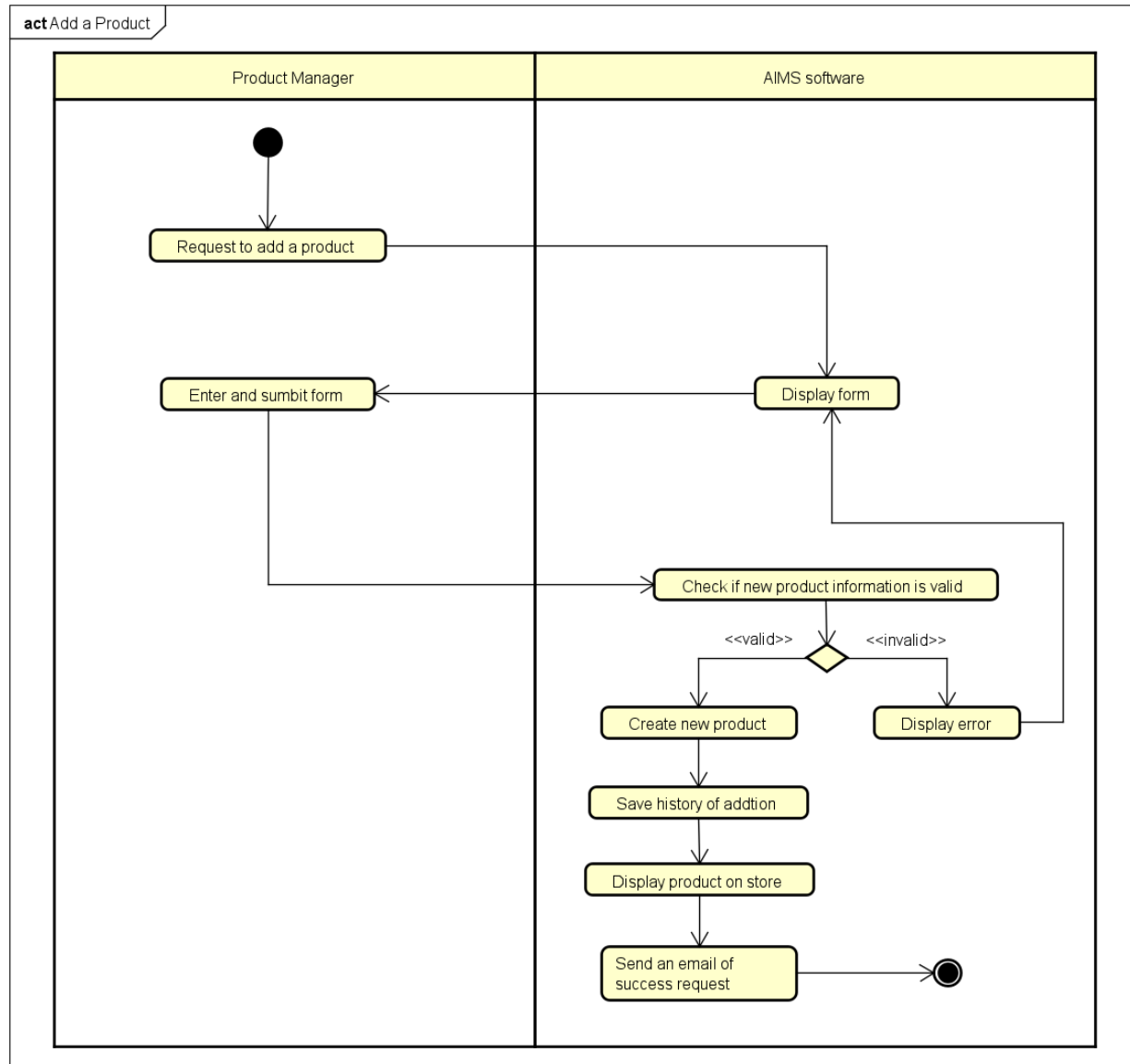


Figure 4: "Add a product" Activity diagram

2.3.4 Update a product

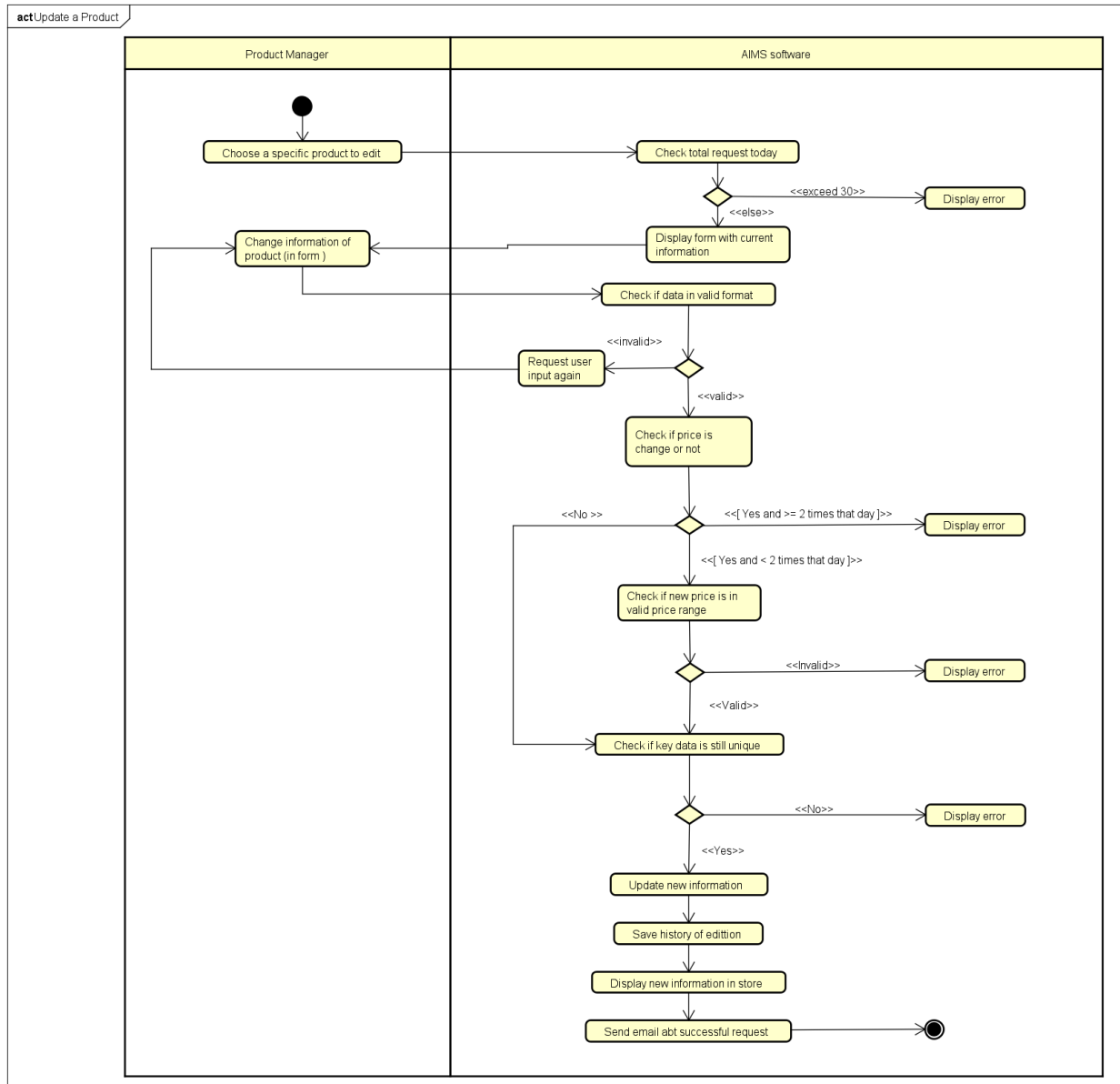


Figure 5: "Update a product" Activity diagram

2.3.5 Approve/ Reject a product

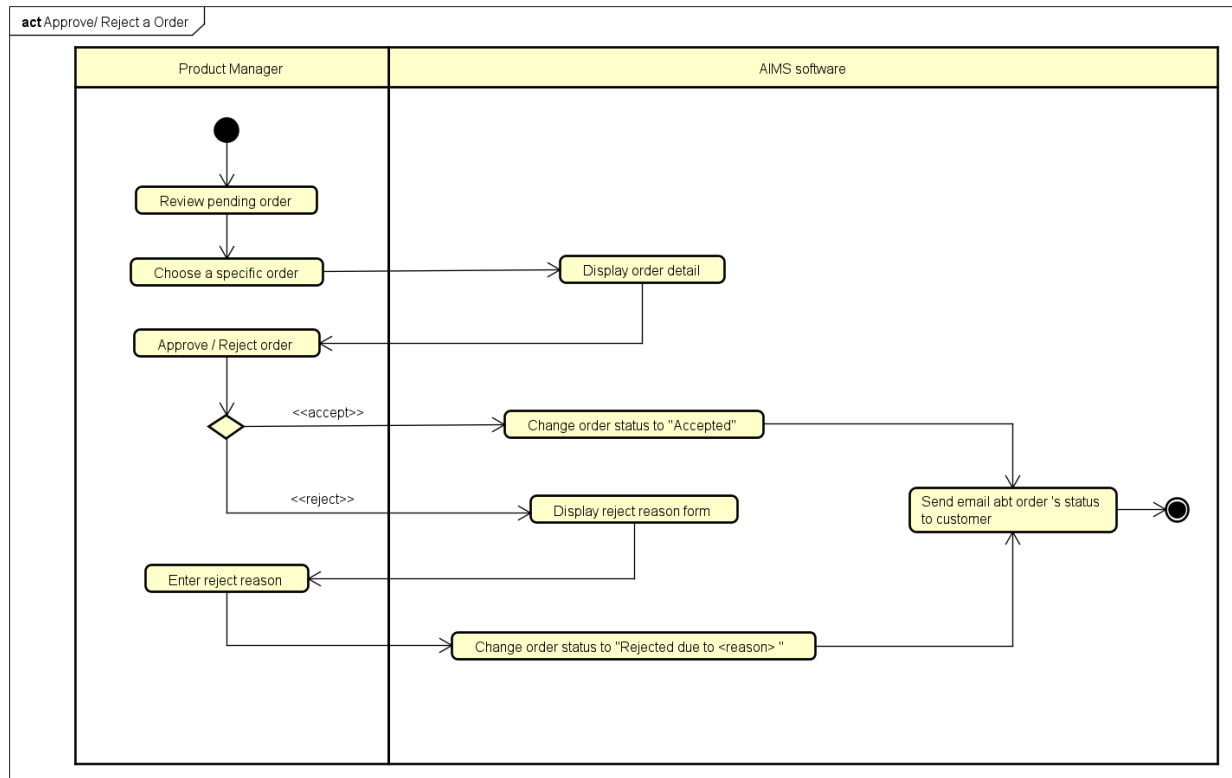


Figure 6: "Approve/ Reject a product" Activity diagram

2.3.6 Place order

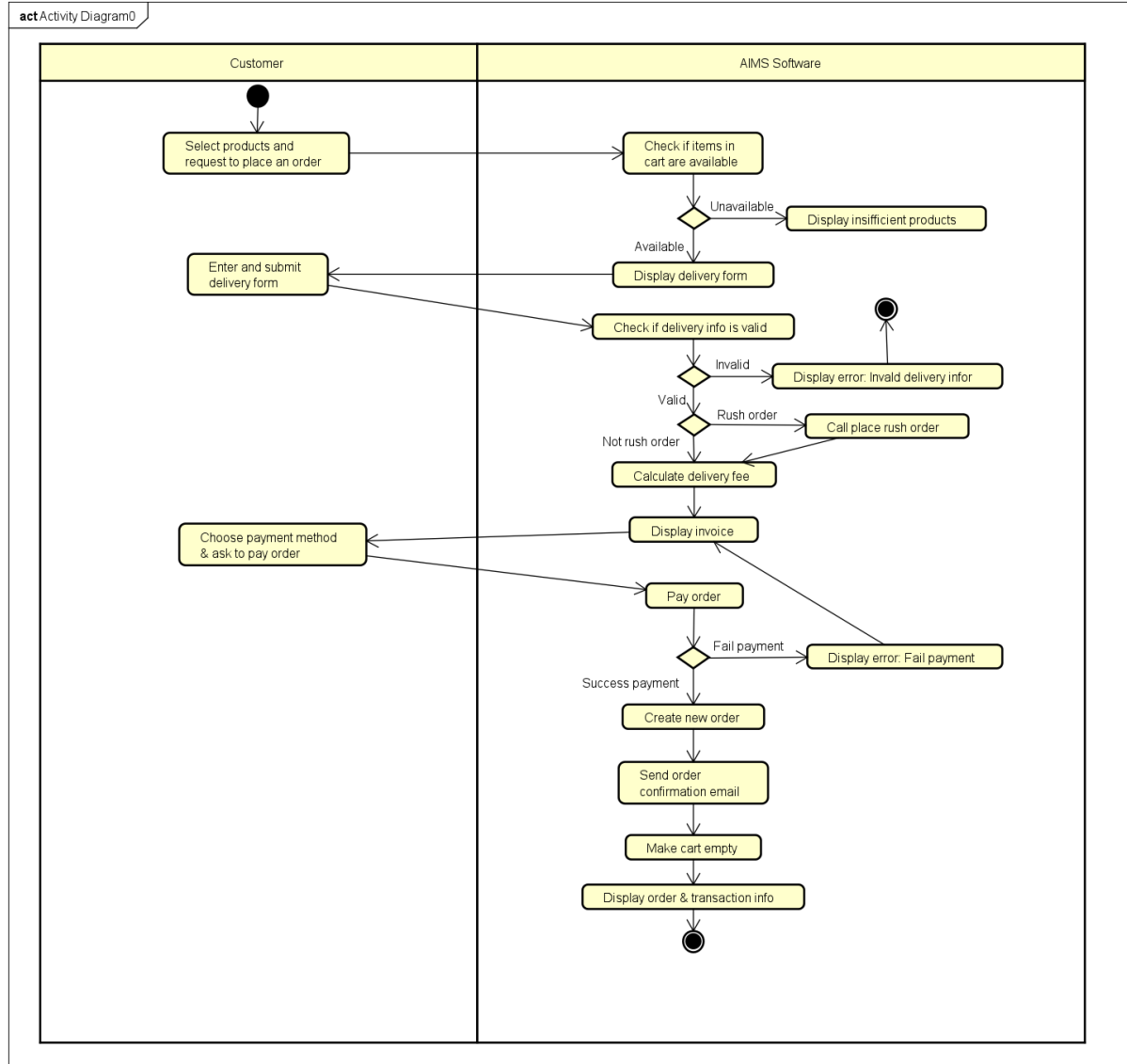


Figure 7: "Place order" Activity diagram

2.3.7 Place rush order

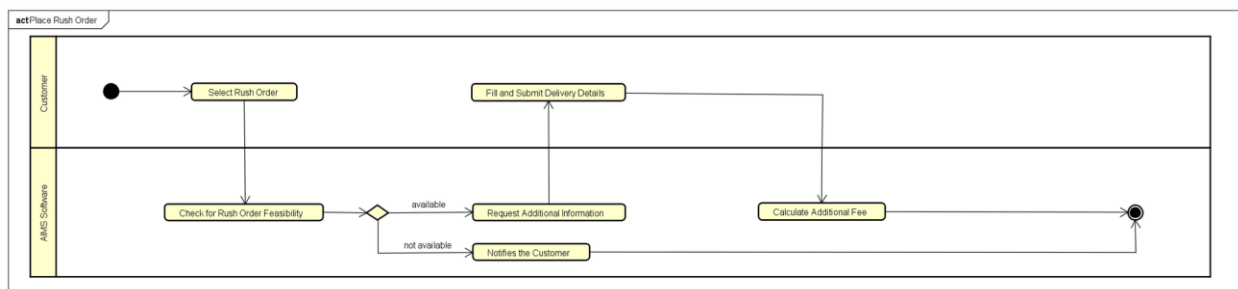


Figure 8: "Place rush order" Activity diagram

3 Detailed Requirements

3.1 Use case “Place order”

Use Case “Place order”

1. Use case code

UC001

2. Brief Description

The interaction between customers and AIMS software when customer wishes to place an order.

3. Actors

- Customer

4. Preconditions

- The selected items in the cart must be available
- The cart must have at least 1 item

5. Basic Flow of Events

1. Customer selects products and request to place order
2. Software checks the product availability
3. Software displays delivery form
4. Customer provides and submits delivery information
5. Software checks the validity of the delivery information
6. Software calculates delivery fee
7. Software displays the invoice
8. Software calls the Pay Order Use case
9. Software saves the new order
10. Software sends email to customer for the success order
11. Software makes the cart empty
12. Software displays the order and transaction information

6. Alternative flows

No	Location	Condition	Action	Resume location
1.	At Step 2	If the quantity of any products is insufficient	The software will display the quantity of each product that is lacking	Use case resumes at Step 1

2.	At Step 5	If customer chooses to place rush order delivery	The software inserts the case “Place rush order”	Use case resumes at Step 7
3.	At Step 5	If the delivery information is invalid	The software displays error: “Invalid delivery information”	Use case resumes at Step 4

7. Input data

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Receiver name	Receiver's full name	Yes	Not empty, only alphabets characters	Tran Viet Anh
2.	Phone Number	Phone number for contacting receiver	Yes	10 digits	0332870304
3.	City/Province	City or province name, choose from a list			Ha Noi
4.	Address	Location to deliver to	Yes		Nguyen Trai Street, Thanh Xuan district
5.	Shipping instructions	Special instructions for delivery	No	Predefined options (Normal/ Rush Order)	“Only receive my items after 5p.m”
6.	Delivery method		Yes	Predefined options (Normal/ Rush Order)	Rush order
7.	Email Address	The email address of	No	Following the syntax of	Customer123@gmail.com

		the customer		a email address	
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8. Output data

Output data of general information of order items

No	Data fields	Description	Display format	Example
1.	Title	Title of a product	A string	Lord of the Rings
2.	Price	Price of the product	- Display in thousands dong unit - Positive integer	500 000 VND
3.	Quantity	Quantity of the product	- Positive integer	10
4.	Total Product Price excluding VAT	Total money of all products excluding VAT	- Display in thousands dong unit - Positive integer	5 000 000 VND
5.	Total Product Price including VAT	Total money of all products including VAT	- Display in thousands dong unit - Positive integer	5 500 000 VND
6.	Delivery Method	Delivery method of product	Predefined options (Normal/ Rush Order)	Rush Order
7.	Shipping fee	The fee for delivery	- Display in thousands dong unit - Positive integer	100 000 VND
8.	Total	Total amounts need to pay include total product price including VAT and shipping fee	- Display in thousands dong unit - Positive integer	5 600 000 VND

Output data of general information of order and transaction information

No	Data fields	Description	Display format	Example
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1.	Order ID	Unique identifier for the order	Alphanumeric	O001
2.	Customer name	Customer's full name	Only alphabets	Tran Viet Anh
3.	Phone number	Phone number for contacting receiver	10 digits	0332870304
4.	Address	Location to deliver to	Text	Nguyen Trai street, Thanh Xuan district
5.	City/Province	City/Province of the delivery	Text	Hanoi
6.	Total amount	Total cost of the order	- Display in thousands dong unit - Positive integer	5 600 000 VND
7.	Transaction ID	Unique identifier for the transaction	Alphanumeric	T001
8.	Transaction content	Brief description of the transaction	Text	Transaction of order O001
9.	Transaction datetime	Date and time of the transaction	Text in form (YYYY-MM-DD HH:mm:ss)	2025-02-23 20:00:00
10.	Status of Order	Waiting for Payment/ Successful Payment/ Waiting for Seller Response/ Approved/ Rejected		Waiting for Payment

9. Postconditions

- Software sends invoice and payment transaction information to customer's email.
- Software records the payment transaction information and the successfully paid order.
- The cart will be empty after success paid order.

3.2 Use case "Add a product"

Use Case “Add a Product”

1. Use case code

UC002

2. Brief Description

This use case describes the interaction between Product Manager and AIMS software when Product Manager wish(es) to add a product to his/her shop.

3. Actors

- Product Manager

4. Preconditions

- The product manager fills in all requested data in form.
- The product that the product manager wants to add must be unique at some points in comparison with existing products in his/her shop.

5. Basic Flow of Events

1. Product manager requests to create a product
2. AIMS software displays a form of new product details and requests the manager fill in
3. Product manager enters new product details into the form
4. AIMS software checks if all input data is in the right format
5. AIMS software checks if new product is unique in that manager ‘s shop
6. AIMS software calls UC “Add a Product”
7. AIMS software creates that new product and saves the history of product addition.
8. AIMS software displays new product on product manager ‘s shop
9. AIMS software sends an email to the product manager for the successful request

6. Alternative flows

No	Location	Condition	Action	Resume location
1.	At Step 5	If product manager enters data in wrong format	▪ AIMS software requests the product manager to fill in again	Resume at step 4
2.	At Step 6	If new product ‘s key information (Bar code, Name) existed in that product manager ‘s shop	▪ AIMS software display a notification: “Product with < name > / < barcode > already existed.”	Resume at step 3

7. Input data

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Type		x	Books/ CDs/ LP/ DVDs	Books
2.	Barcode		x		B001
3.	Title	Title of that product	x		Harry Potter ep 1
4.	Author		x		JK Rolling
5.	Cover type		x	Paperback/ hard cover	Hard Cover
6.	Publisher		x		NXB Kim Dong
7.	Publish date		x	DD/MM/YYYY format	02/03/2020
8.	Weight	In gram	x	Positive number	200
9.	Product dimensions	In cm x cm	x	Positive number	30 x 30
10.	Condition		x	New/ Used	New
11.	Warehouse entry date		x	DD/MM/YYYY format	02/03/2025
12.	Current Price	In VND Not include VAT	x	Dot per thousand Positive number	150.000
13.	Value	In VND Not include VAT	x	Dot per thousand Positive number	150.000
14.	Number of pages			Dot per thousand Positive number	300
15.	Language				Vietnamese
16.	Genre				Fantasy

17.	Description				null
8. Output data					
No	Data fields	Description	Display format	Example	
1.	Type		Books/ CDs/ LP/ DVDs	Books	
2.	Barcode			B001	
3.	Title	Title of that product		Harry Potter ep 1	
4.	Author			JK Rolling	
5.	Cover type		Paperback/ hard cover	Hard Cover	
6.	Publisher			NXB Kim Dong	
7.	Publish date		DD/MM/YYYY format	02/03/2020	
8.	Weight	In gram	Positive number	200	
9.	Product dimensions	In cm x cm	Positive number	30 x 30	
10.	Condition		New/ Used	New	
11.	Warehouse entry date		DD/MM/YYYY format	02/03/2025	
12.	Current price	In VND Not include VAT	Dot per thousand Positive number	150.000	
13.	Value	In VND Not include VAT	Dot per thousand Positive number	150.000	
14.	Number of pages		Dot per thousand Positive number	300	
15.	Language			Vietnamese	
16.	Genre			Fantasy	
17.	Description				
9. Postconditions					
- Product managers get an email about the status of requests.					

- If a request is accepted, AIMS software displays a new product in the requested product manager's store.
- AIMS software saves the history of products addition.

3.3 Use case "Update a product"

Use Case "Update a product"

1. Use case code

UC003

2. Brief Description

This user case describes the interaction between product manager and AIMS software when product manager wishes(es) to update information of a product.

3. Actors

- Product manager

4. Preconditions

- There is at least one product in the product manager 's store

5. Basic Flow of Events

1. The product manager chooses a specific product to update information
2. AIMS software check total request of the manager (>30 error)
3. AIMS software displays a form with current product information
4. Product manager enters new data to line they want to change
5. AIMS software checks if all input data is in the right format
6. AIMS software checks if product price is changed more than 2 times per day
7. AIMS software checks if new data is valid (unique and in price-change range)
8. AIMS software calls UC "Add a Product"
9. AIMS software updates new information and saves the history of product edition.
10. AIMS software displays new product data on product manager 's shop
11. AIMS software sends an email to the product manager for the successful request

6. Alternative flows

No	Location	Condition	Action	Resume location
1.	At Step 4	If product manager enters data in wrong format	<ul style="list-style-type: none"> AIMS software requests the product manager to fill in again 	Resumes at Step 4

2.	At Step 5	If product manager have changed price 2 times a day	<ul style="list-style-type: none"> AIMS software rejects the request to update price and display error “You cannot change price more than 2 times a day” 	Resumes at Step 3
3.	At Step 6	If new data isn’t unique anymore (same title/ barcode) or price change doesn’t belong to 30%-150% of product value	<ul style="list-style-type: none"> AIMS software rejects the request to update product and display error “Error: product with title/barcode existed” or “Error: Invalid price range (30-150% product value) “ 	Resumes at Step 3
4.	At Step 2	If product manager requests more than 30 times a day	<ul style="list-style-type: none"> AIMS software display error: “ERR: Limit update times exceed – 30 “ 	Use case ends

7. Input data

Table of old data

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Type		x	Books/ CDs/ LP/ DVDs	Books
2.	Barcode		x		B001
3.	Title	Title of that product	x		Harry Potter ep 1
4.	Author		x		JK Rolling

5.	Cover type		x	Paperback/ hard cover	Hard Cover
6.	Publisher		x		NXB Kim Dong
7.	Publish date		x	DD/MM/YYYY format	02/03/2020
8.	Weight	In gram	x	Positive number	200
9.	Product dimensions	In cm x cm	x	Positive number	30 x 30
10.	Condition		x	New/ Used	New
11.	Warehouse entry date		x	DD/MM/YYYY format	02/03/2025
12.	Current Price	In VND Not include VAT	x	Dot per thousand Positive number	150.000
13.	Value	In VND Not include VAT	x	Dot per thousand Positive number	150.000
14.	Number of pages			Dot per thousand Positive number	300
15.	Language				Vietnamese
16.	Genre				Fantasy
17.	Description				null

Table of new data (update Description, Current Price)

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Type		x	Books/ CDs/ LP/ DVDs	Books
2.	Barcode		x		B001

3.	Title	Title of that product	x		Harry Potter ep 1
4.	Author		x		JK Rolling
5.	Cover type		x	Paperback/ hard cover	Hard Cover
6.	Publisher		x		NXB Kim Dong
7.	Publish date		x	DD/MM/YYYY format	02/03/2020
8.	Weight	In gram	x	Positive number	200
9.	Product dimensions	In cm x cm	x	Positive number	30 x 30
10.	Condition		x	New/ Used	New
11.	Warehouse entry date		x	DD/MM/YYYY format	02/03/2025
12.	Current Price	In VND Not include VAT	x	Dot per thousand Positive number	250.000
13.	Value	In VND Not include VAT	x	Dot per thousand Positive number	150.000
14.	Number of pages			Dot per thousand Positive number	300
15.	Language				Vietnamese
16.	Genre				Fantasy
17.	Description				Day la des

8. Output data

No	Data fields	Description	Mandatory	Valid condition
----	-------------	-------------	-----------	-----------------

1.	Type		x	Books/ CDs/ LP/ DVDs
2.	Barcode		x	
3.	Title	Title of that product	x	
4.	Author		x	
5.	Cover type		x	Paperback/ hard cover
6.	Publisher		x	
7.	Publish date		x	DD/MM/YYYY format
8.	Weight	In gram	x	Positive number
9.	Product dimensions	In cm x cm	x	Positive number
10.	Condition		x	New/ Used
11.	Warehouse entry date		x	DD/MM/YYYY format
12.	Current Price	In VND Not include VAT	x	Dot per thousand Positive number
13.	Value	In VND Not include VAT	x	Dot per thousand Positive number
14.	Number of pages			Dot per thousand Positive number
15.	Language			
16.	Genre			
17.	Description			

9. Postconditions

- Product managers get an email about the status of requests.
- If a request is accepted, AIMS software displays new information about the chosen product.
- AIMS software saves the history of products edition

3.4 Use case “Approve/ Reject an order”

Use Case “Approve/ Reject Order”

1. Use case code

UC004

2. Brief Description

This use case describes the interaction between product manager and AIMS software when product manager wish(es) to approve or reject an order.

3. Actors

- Product manager

4. Preconditions

- There is at least 1 pending order in the store of product manager.

5. Basic Flow of Events

1. The product manager select a specific order to review
2. AIMS software displays information about that order
3. The product manager approve/ reject the order
4. AIMS software change status of order
5. AIMS software sends an email to customers to notice the status of order

6. Alternative flows

No	Location	Condition	Action	Resume location
1.	At Step 4	If product manager accept that order	AIMS software change status to “Accepted, items will be packed and delivery soon”	Resume at Step 5
2.	At Step 4	If product manager reject that order	AIMS software request product manager enter the reasons and change status order to	Resume at Step 5

			“Rejected, due to < the reason > “	
7. Input data				
Output data of general information of order and transaction information				
No	Data fields	Description	Display format	Example
1.	Customer name	Customer’s full name	Only alphabets	Tran Viet Anh
2.	Phone number	Phone number for contacting receiver	10 digits	0332870304
3.	Address	Location to deliver to	Text	Nguyen Trai street, Thanh Xuan district
4.	City/Province	City/Province of the delivery	Text	Hanoi
5.	Total amount	Total cost of the order	- Display in thousands dong unit - Positive integer	5 600 000 VND
6.	Transaction ID	Unique identifier for the transaction	Alphanumeric	T001
7.	Transaction content	Brief description of the transaction	Text	Transaction of order O001
8.	Transaction datetime	Date and time of the transaction	Text in form (YYYY-MM-DD HH:mm:ss)	2025-02-23 20:00:00
9.	Status of Order	Waiting for Payment/ Successful Payment/ Waiting for Seller Response/ Approved/ Rejected		Successful Payment
8. Output data				

Output data of after product manager response (Approve/ Reject in status)

No	Data fields	Description	Display format	Example
1.	Customer name	Customer's full name	Only alphabets	Tran Viet Anh
2.	Phone number	Phone number for contacting receiver	10 digits	0332870304
3.	Address	Location to deliver to	Text	Nguyen Trai street, Thanh Xuan district
4.	City/Province	City/Province of the delivery	Text	Hanoi
5.	Total amount	Total cost of the order	- Display in thousands dong unit - Positive integer	5 600 000 VND
6.	Transaction ID	Unique identifier for the transaction	Alphanumeric	T001
7.	Transaction content	Brief description of the transaction	Text	Transaction of order O001
8.	Transaction datetime	Date and time of the transaction	Text in form (YYYY-MM-DD HH:mm:ss)	2025-02-23 20:00:00
9.	Status of Order	Waiting for Payment/ Successful Payment/ Waiting for Seller Response/ Approved/ Rejected		Approved

9. Postconditions

- The status of the order is updated
- Customer get an email for the change of his/her order status

3.5 Use Case “View product detail”

Use Case “View product detail”

1. Use case code

UC005

2. Brief Description

This use case describes the interaction between Customer/Product Manager and AIMS software when they wish to view the detailed information of a product.

3. Actors

- Customer
- Product Manager

4. Preconditions

- User must be in the search display

5. Basic Flow of Events

1. User search products by product attributes.
2. Software displays 20 products per page (products will be sorted alphabetically if user is not searching for a specific product).
3. User chooses a product to view detailed information.
4. Software displays all the information for the product.

6. Alternative flows

No	Location	Condition	Action	Resume location
1.	At Step 3	If user chooses to add current product to cart	▪ The software inserts the case “Add Product to Cart”	Use case ends

7. Input data

Input data for searching products by attributes

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Product Name	The name of the product/products	No		Harry Potter ep 1

		user is searching for			
Input data for getting a product details					
No	Data fields	Description	Mandatory	Valid condition	Example
1.	Product ID	The ID/Barcode number used to differentiate a product from another one.	Yes	The ID must exist in the system and be an integer	1

8. Output data

No	Data fields	Description	Display format	Example
1.	Type		Books/ CDs/ LP/ DVDs	Books
2.	Barcode			B001
3.	Title	Title of that product		Harry Potter ep 1
4.	Author			JK Rolling
5.	Cover type		Paperback/ hard cover	Hard Cover
6.	Publisher			NXB Kim Dong
7.	Publish date		DD/MM/YYYY format	02/03/2020
8.	Weight	In gram	Positive number	200
9.	Product dimensions	In cm x cm	Positive number	30 x 30
10.	Condition		New/ Used	New
11.	Warehouse entry date		DD/MM/YYYY format	02/03/2025
12.	Current price	In VND Not include VAT	Dot per thousand Positive number	150.000
13.	Value	In VND Not include VAT	Dot per thousand Positive number	150.000

14.	Number of pages		Dot per thousand Positive number	300
15.	Language			Vietnamese
16.	Genre			Fantasy
17.	Description			

9. Postconditions

- If the user is a product manager, they can choose to continue editing or delete the product

3.6 Use case “Place rush order”

Use Case “Place Rush Order”

1. Use case code

UC006

2. Brief Description

This UseCase outlines how the customer interacts with AIMS software when they want to place a rush.

3. Actors

- Customer

4. Preconditions

- The customer selects Rush Order Delivery in the Place Order UseCase.
- The customer has selected items in the cart and is placing an order.

5. Basic Flow of Events

1. Customer requests to place a rush order.
2. The software checks whether the products in the cart are eligible, and delivery address is feasible for rush delivery.
3. The software requests additional delivery information from the customer.
4. Customer fills out and submits the delivery details.
5. The software calculates the delivery fee and updates the order's information accordingly.
6. The software returns to Step 7 of the Place Order UseCase (the main flow), where the Customer proceeds with payment.

6. Alternative flows

No	Location	Condition	Action	Resume location
1.	At Step 2	If none of the products are not available for rush delivery	<ul style="list-style-type: none">The software notifies that rush delivery is unavailable and continues as normal delivery	Use case ends

7. Input data

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Delivery Time For Rush Order	Time requested for rush order delivery	Yes	Timestamp	2025-03-11 14:00
2.	Delivery Instructions	Notes or guidance for the delivery personnel	No	Text	Leave at the back door

8. Output data

No	Data fields	Description	Display format	Example
1.	Shipping Fee	Shipping Fee for Rush Order option	Display in thousands dong unit Dot for thousands of separators Positive integer	30.000
2.	Update Total Amount	Updated Shipping Fee and Total Amount	Display in thousands dong unit Dot for thousands of separators Positive integer	530.000

9. Postconditions

- Rush order details are added to the order information.
- Controller passes back to the Place Order UseCase to continue the main flow.

3.7 Use case “Pay order”

Use Case “Pay order”

1. Use case code

UC007

2. Brief Description

This case describes the interaction between AIMS software with the customer and VN Pay when the customer wishes to pay for an order.

3. Actors

- Customer
- VN Pay

4. Preconditions

- The customer has an order with all delivery and order info
- The order is ready for payment

5. Basic Flow of Events

1. The software display and temporarily save invoice information
2. The customer requests to proceed with the invoice payment
3. AIMS software redirects to VNPay
4. VNPay sends payment result to VNPay
5. The AIMS software saves both the invoice and the payment transaction
6. VNPay notifies the payment result

6. Alternative flows

No	Location	Condition	Action	Resume location
1.	At Step 4	If the customer cancel the payment transaction	▪ The software will redirected back to the order review	Resume at Step 1

7. Input data

8. Output data

No	Data fields	Description	Display format	Example
1.	TransactionID	The unique ID of a transaction	A string of character	12345

2.	Total Amount	Total money off all products	Display in thousands dong unit.	1.000.000
3.	Transaction Description	The content of transaction	A string of character	Thanh toan don hang thanh thoi gian: 2025 - 05-08
4.	Create_date	The time of transaction	In datetime type.	2025-08-05 19:51:23
5.	Status of Order			Successful Payment

9. Postconditions

- If the payment fails or cancelled, the order remains in the cart and its status stays as “Ready for Payment”
- If the payment is successful, the order is marked as “Paid” and then process to shipping stage

4 Supplementary specification

4.1 *Functionality*

- Product managers and administrators must log in with account of appropriate role.
- The system should enable customers to search for products using relevant attributes (title, category, author, etc.). Search results should be displayed in a clear and organized manner.
- Customers should be able to access a record of their previous orders, including order details, status, and transaction information.

4.2 *Usability*

- The user interface should be intuitive, user-friendly, and aesthetically pleasing. It should be consistent in design and navigation across all functionalities.
- The system should be accessible to users with disabilities, adhering to relevant accessibility standards. This may include features like keyboard navigation, screen reader compatibility, and clear visual hierarchy.
- The system should provide readily accessible help documentation or tutorials to guide users through the functionalities and features.

4.3 *Reliability*

- The system should remain operational 24/7, with scheduled maintenance not exceeding 1 hour per month.
- The system should be able to operate continuously for 300 hours without failure.

4.4 *Performance*

- The system should be able to support up to 1,000 simultaneous users with minimal impact on performance.
- The application should respond within 2 seconds under normal conditions and up to a maximum of 5 seconds during peak hours.

4.5 *Supportability*

- The application should be built using a modular and OOP design to ensure the process of maintaining and scaling.
- There should be a monitoring and alerting system in place to prevent abnormalities happening causing the system to go down.

4.6 *Other requirements*