HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

School of Information and Communications Technology

Software Requirement Specification

Version 1.1

AIMS PROJECTS

Subject: TKXDPM

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1 Introduction

1.1 Objective

This document presents the detailed description for AIMS Projects.

1.2 Scope

1.3 Glossary

STT	*Term*	*Explaination*	*Example*	*Note*
1	repository	A repository contains all of your project's files and each file's revision history.	Repository on Github	
2	usecase	A use case is a methodology used in system analysis to identify, clarify and organize system requirements.		
3	actor	An actor represents a role of a user that interacts with the system that you are modeling.	Administrator User	

1.4 References

- Provided Doccumentation.

2 Overall requirements

2.1 Actors

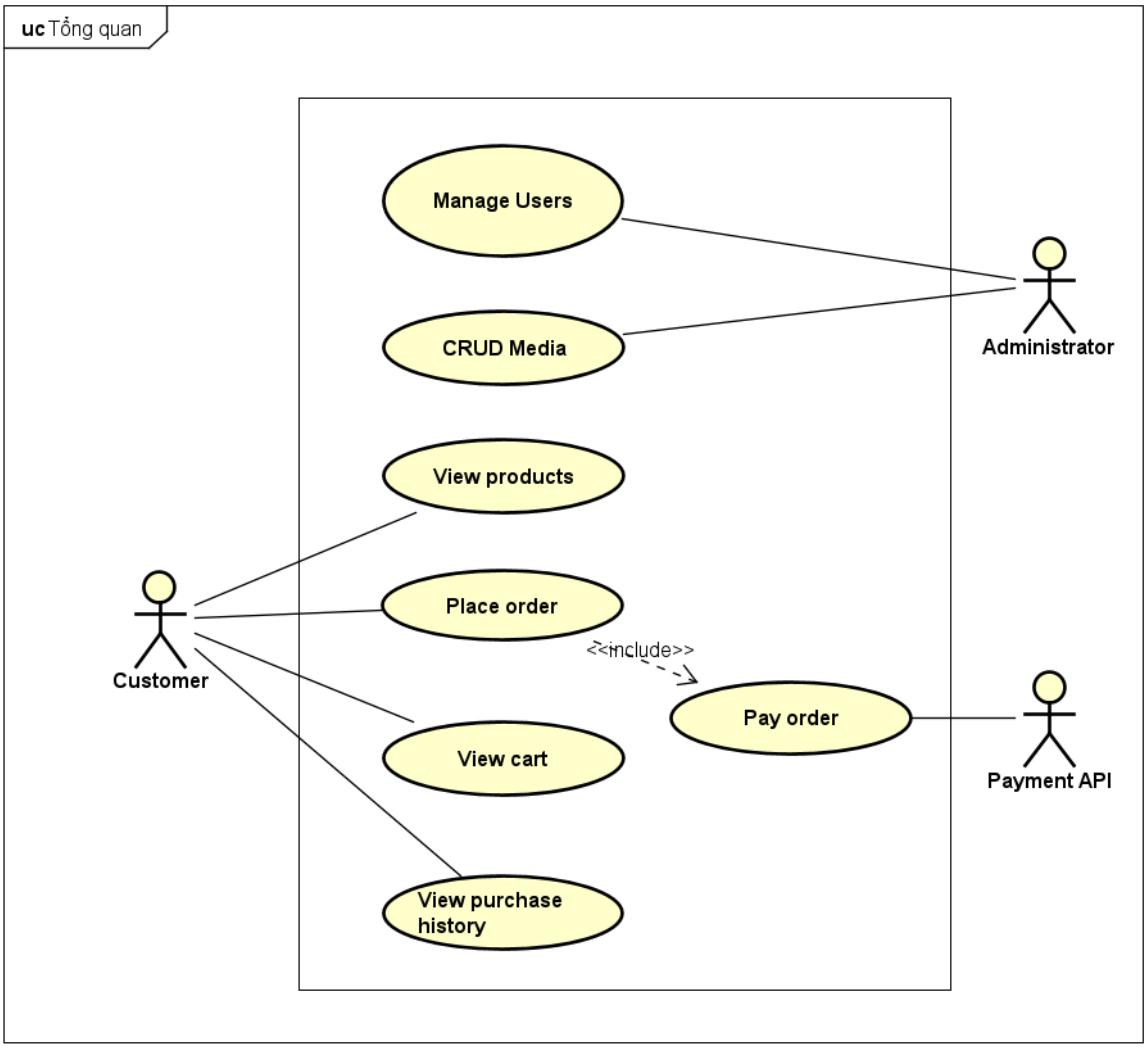
The AIMS Software consists of 3 actors (User, Administrator, Payment API):

+, **Customer**: The **Customer** are the customer that use the Aims Software to view, buy products after login.

+, **Administrator**: The **Administrator** is the highest authority actors, who can add, change info of product and users.

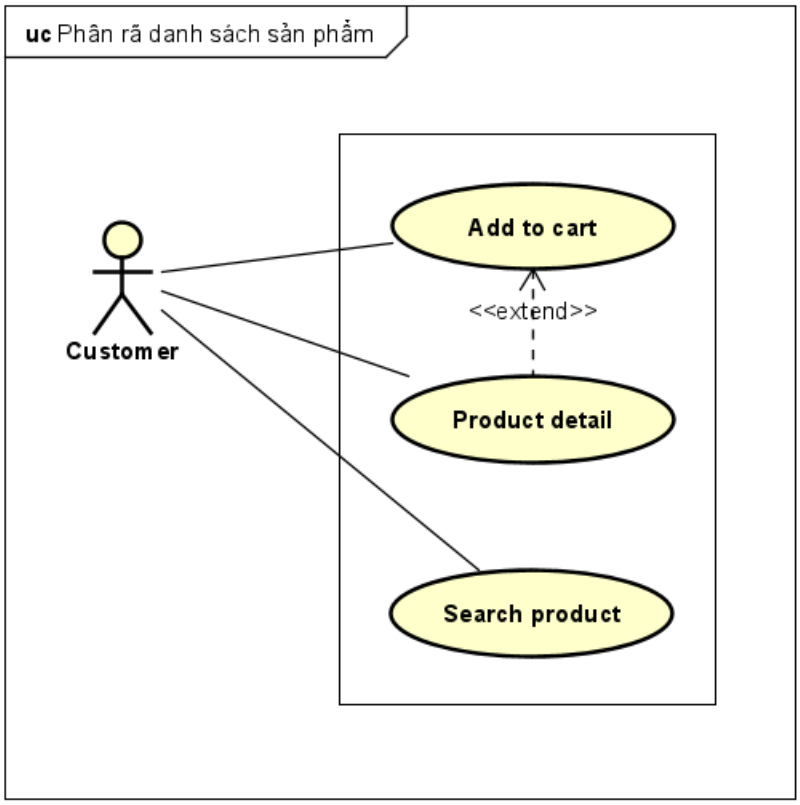
+, **Payment API**: The **payment API** is responsible for the act of paying for order.

2.2 General use case diagram

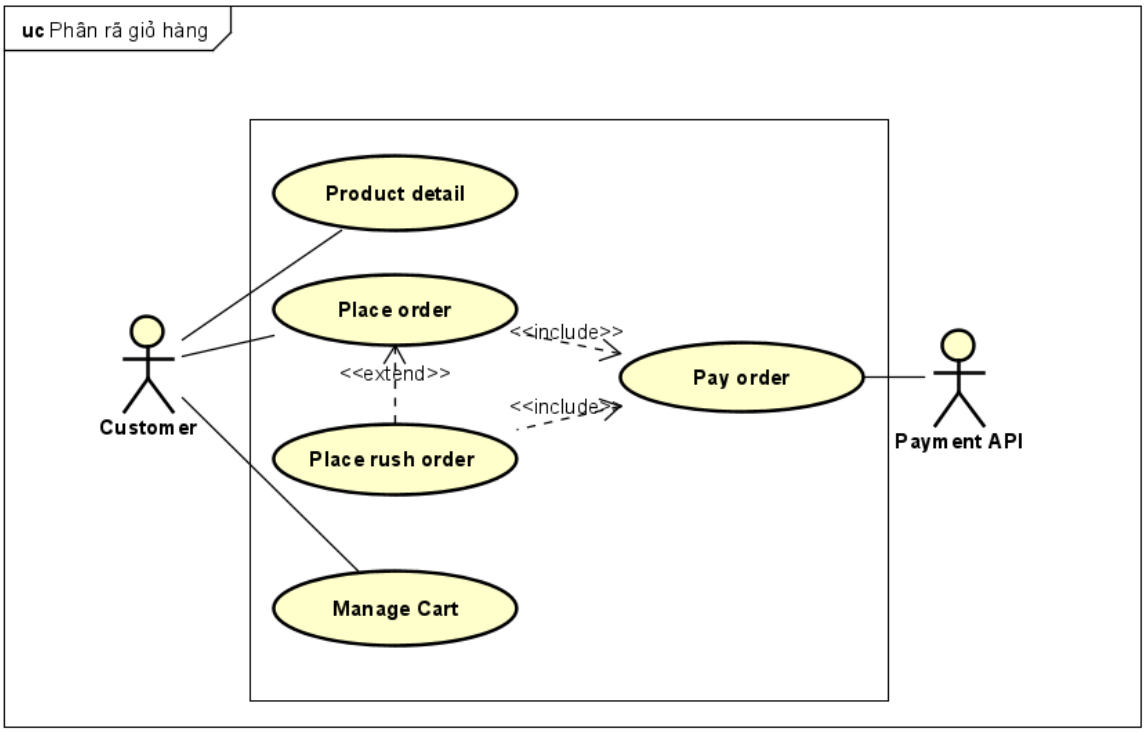


2.3 Lower-level use case diagrams

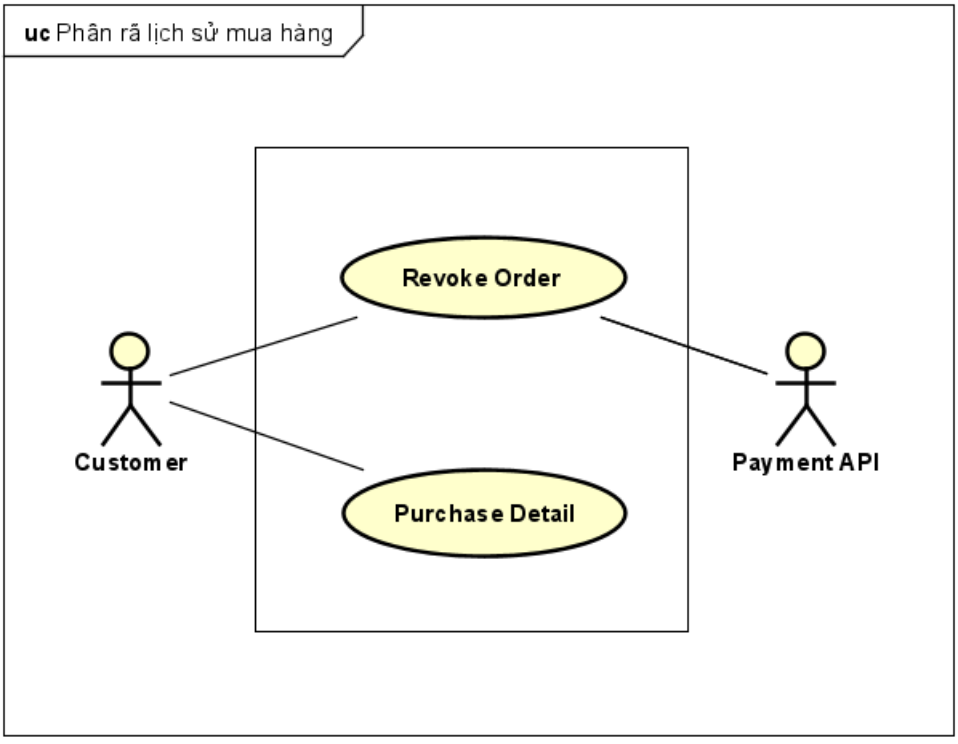
2.3.1 Low level use case dragrams for “View products”



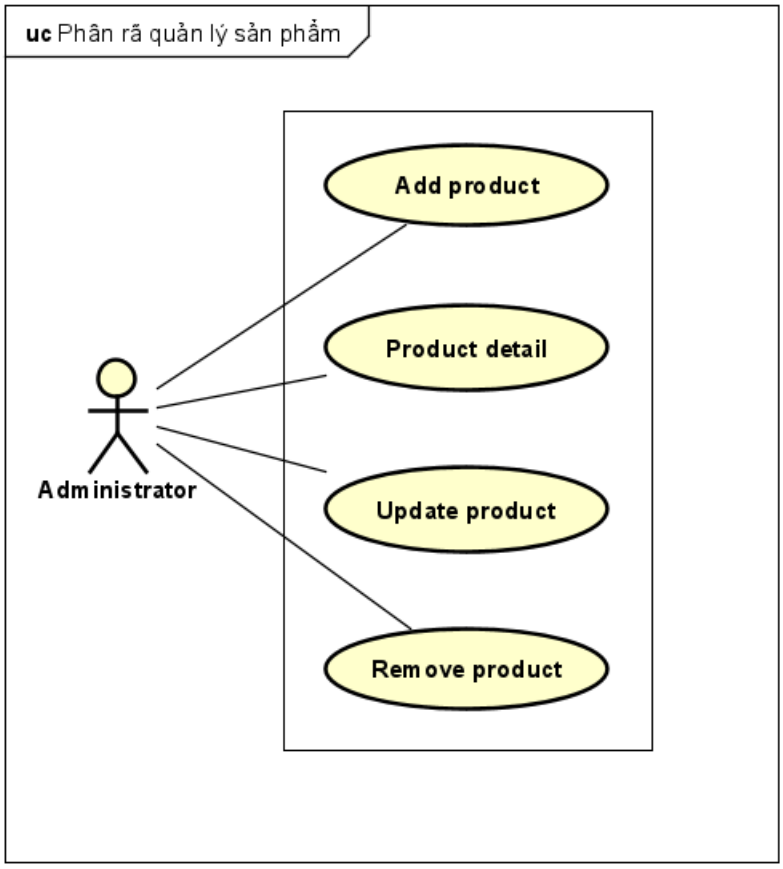
2.3.2 Low level use case dragrams for “View cart”



2.3.3 Low level use case dragrams for “View purchase history”

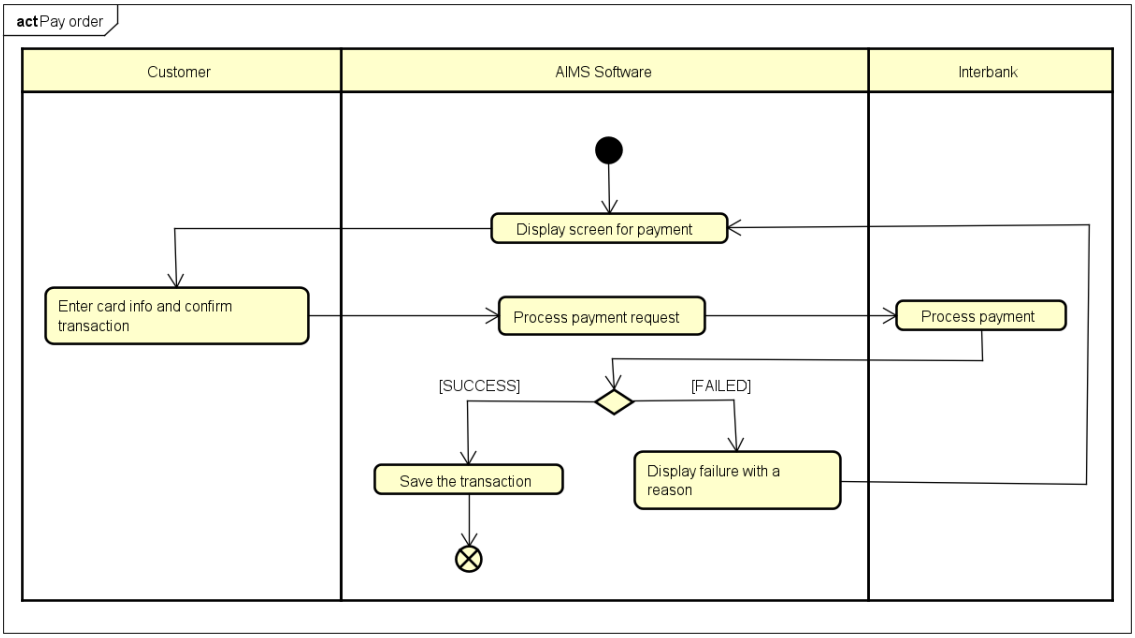


2.3.4 Low lovel use case dragrams for “CRUD Media”

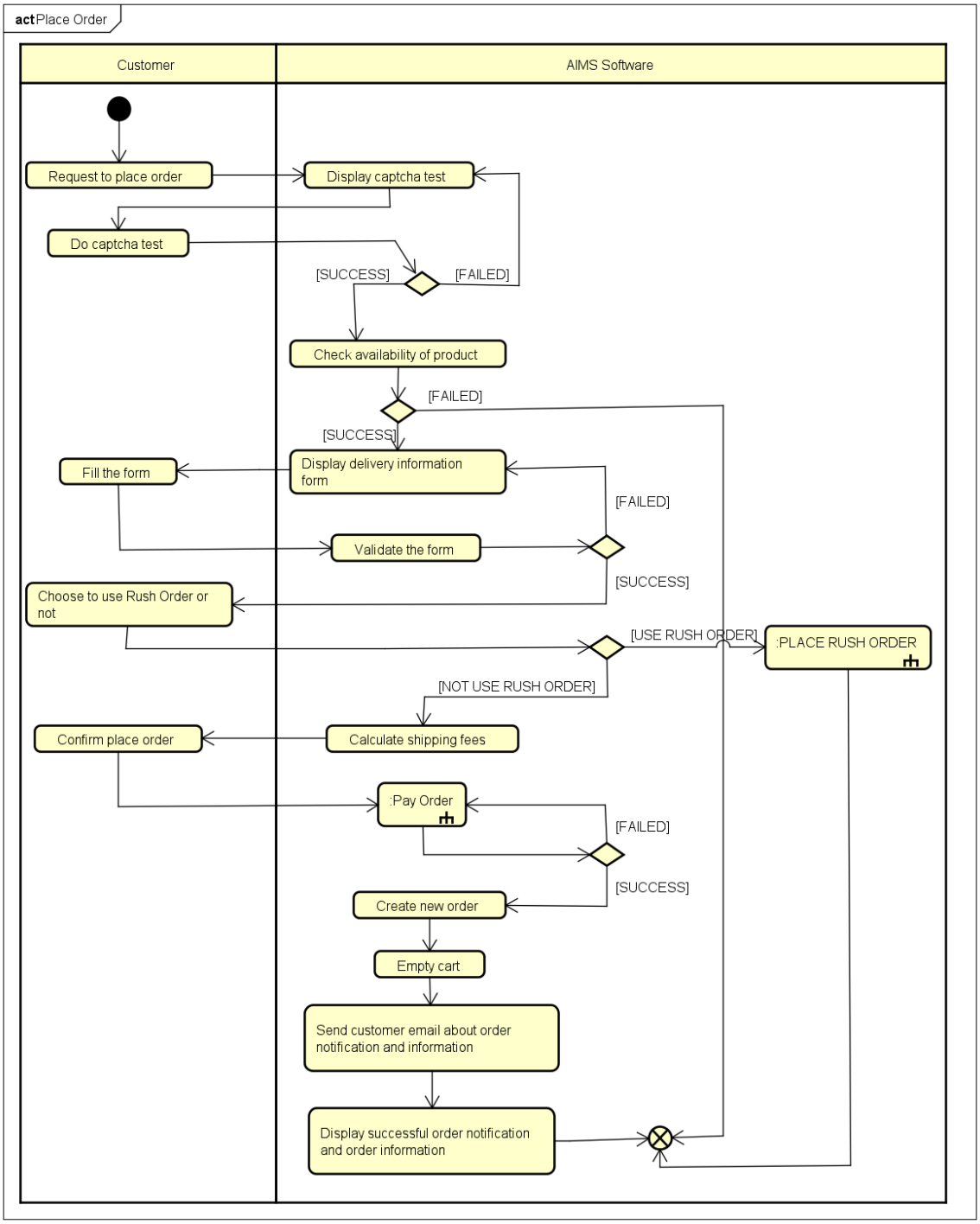


2.4 Business processes

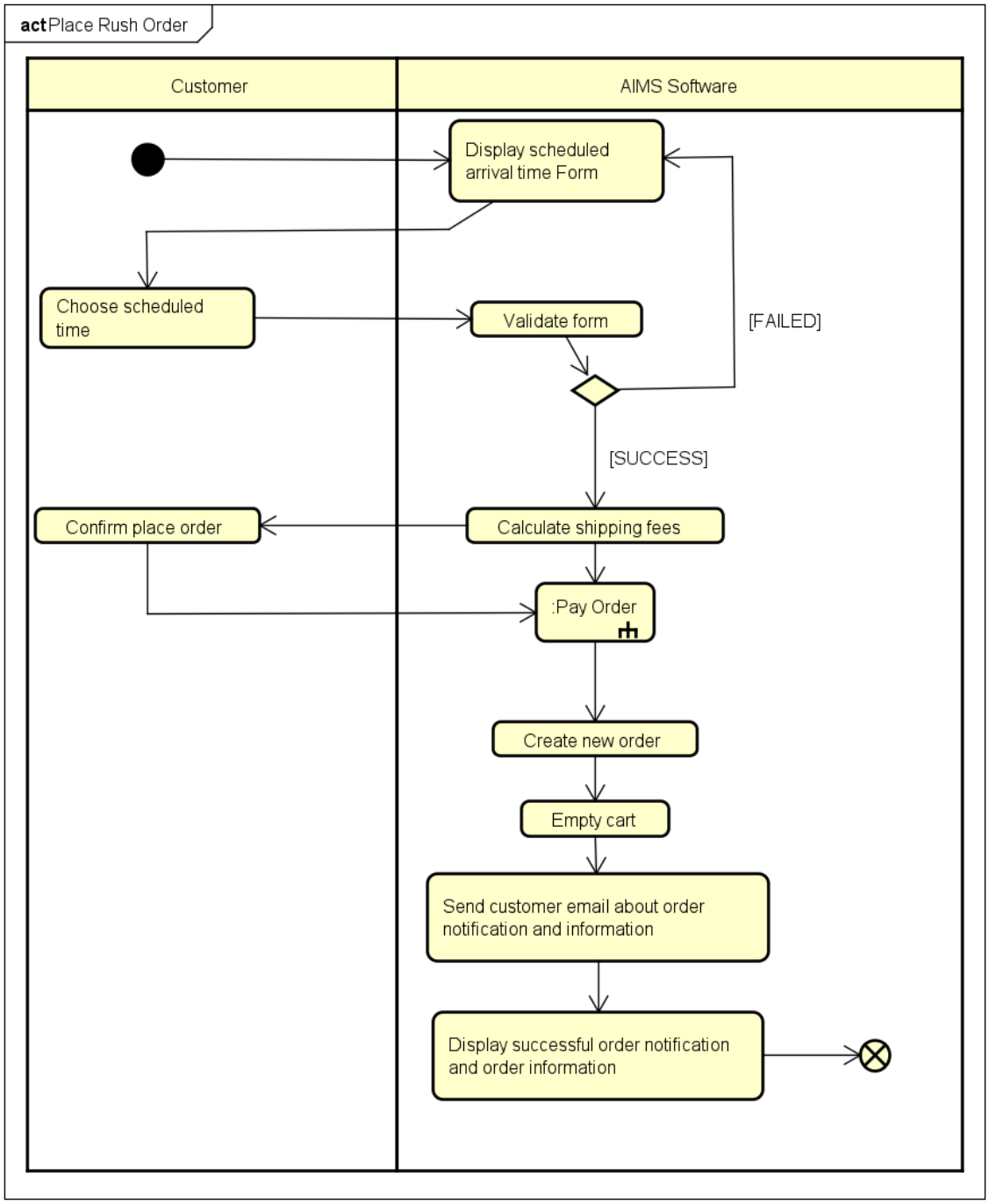
2.4.1 Activity Diagrams for “Pay order”



2.4.2 Activity Diagrams for “Place order”



2.4.3 Activity Diagrams for “Place rush order”



3 Detail requirements

Details of the use cases given in following sections are specified below.

3.1 Specification of Use case UC001 – "Pay Order"

1. Use case code

UC001

2. Brief Description

This use case describes the interactions between the AIMS software with the customer and Interbank when the customer desires to pay order. **Actors:** User

3. Actor:

3.1 Customer

3.2 Payment API

4. Preconditions

The AIMS software has calculated the total amount of money which the customer has to pay.

5. Basic Flow of Events

Step 1. The AIMS software displays the payment screen

Step 2. The customer enters credit card info and confirms to pay order

Step 3. The AIMS software asks the Interbank to process the payment transaction

Step 4. The Interbank processes the payment transaction

Step 5. The AIMS software saves the payment transaction

Step 6. The AIMS software displays transaction information

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step 3	If the card info is invalid	▪ The AIMS software notifies that the card info is invalid	At step 1
2.	At Step 5	If the card info is wrong	▪ The AIMS software notifies that the card info is wrong	At step 1
3.	At Step 5	If the balance is	▪ The AIMS software	At step 1

		not enough	notifies that balance is not enough	

6. Input data

Table A-Input data of …

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Card holder name		Yes	Maximum of 50 character	Nguyen Huu Viet
2.	Card number		Yes	16 digits	1234 4567 8912 4567
3.	Expiration Date		Yes	Consist of month and lát 2 digits of year only	01/23
4.	Security code		Yes	3 digits	123

7. Output data

Table B-Output data of …

No	Data fields	Description	Display format	Example
1.	Transaction ID			
2.	Card holder name			
3.	Amount		Right alignment	1.200.000 VNĐ
4.	Transaction Content			
5.	Transaction Date		Dd/mm/yyyy	03/02/2023

8. Postconditions

3.2 Specification of Use case UC002 – "Place Order"

1. Use case code

UC002

2. Brief Description

The **User** place order of the chosen item or the item in cart

3. Actors: Customer

4. Preconditions

There is an active network connection to the Internet

5. Basic Flow of Events

1. The customer requests to place order in the cart
2. The AIMS software display a captcha to confirm the user is human
3. The customer do the captcha test
4. The AIMS software checks the availability of products in the cart
5. The AIMS software displays the form of delivery information
6. The customer enters and submits delivery information
7. The AIMS software calculates shipping fees
8. The AIMS software displays the invoice
9. The customer confirms to place order
10. The AIMS software calls UC "Pay order"
11. The AIMS software creates a new order
12. The AIMS software makes the cart empty
13. The AIMS software sends email about the order notification and information
14. The AIMS software displays the successful order notification and the order information

6. Alternative flows

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step 4	If the customers failed to do the captcha test	▪ The AIMS software nitifies that the captcha test failed and display another Captcha test	Resumes at Step 2
2.	At Step 5	If the products are not available	▪ The AIMS software notifies that the products in the cart	Use case ends

			are not available and come back to the use case “View cart”	
3.	At step 7	If the delivery info is invalid	▪ The AIMS software notifies that the delivery info is invalid	At step 5
4.	At step 7	If the user chooses to place a rush order	▪ The AIMS software inserts use case “Place Rush Order”	Resumes at step 1 use case “Place Rush Order”
5.	At step 11	If the order payment is not successful	▪ The AIMS software notifies that the payment is not successful	At step 10

7. Input data

Table A-Input data of UC Place order

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Receiver name		Yes		
2.	Phone number		Yes	10 digits	
3.	Province	Choose from a list	Yes		
4.	Address		Yes		
5.	Shipping instructions		No		

8. Output data

Table B-Output data of UC Place order

No	Data fields	Description	Display format	Example
1.	Title	Title of a media product		
2.	Price	Price of the corresponding media	▪ Comma for	123,000

		products	thousands separator ▪ Positive integer ▪ Right alignment	
3.	Quantity	Quantity of the corresponding media	▪ Positive integer ▪ Right alignment	2
4.	Amoount	Total money of the corresponding media	▪ Comma for thousands separator ▪ Positive integer ▪ Right alignment	246,000
5.	Subtotal before VAT	Total price of products in the cart before VAT	▪ Comma for thousands separator ▪ Positive integer ▪ Right alignment	2,106,000
6.	Subtotal	Total price of products in the cart with VAT		2,316,600

9. Postconditions

The logs have been updated accordingly

3.3 Specification of Use case UC003 – "Place Rush Order"

1. Use case code

UC003

2. Brief Description

The actor request to place rush order in the "Place Order" Use case/

3. Actors

3.1 Customer

4. Preconditions

There is an active network connection to the Internet

The actor request to place rush order in the "Place Order" Use case.

5. Basic Flow of Events

1. The AIMS software display a form consist a list of scheduled time for the delivery
2. The custormers choose the scheduled time for the delivery
3. The AIMS software calculates shipping fees
4. The AIMS software displays the invoice
5. The customer confirms to place order
6. The AIMS software calls UC “Pay order”
7. The AIMS software creates a new order
8. The AIMS software makes the cart empty
9. The AIMS software sends email about the order notification and information
10. The AIMS software displays the successful order notification and the order information

6. Alternative flows

Table N-Alternative flows of events for UC Place rush order

No	Location	Condition	Action	Resume location
1.	At Step 2	If the scheduled time is invalid	▪ The AIMS software notifies that the scheduled time is invalid	Resumes at Step 1
2.	At step 11	If the order payment is not successful	▪ The AIMS software notifies that the payment is not successful	At step 10

7. Input data

Table A-Input data of UC Place rush order

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Scheduled time	Scheduled arrival date of the item. Choose from a list.	Yes	Not blank	

8. Output data

Table B-Output data of UC Place rush order

No	Data fields	Description	Display format	Example
1.	Title	Title of a media product		
2.	Price	Price of the corresponding media products	▪ Comma for thousands separator ▪ Positive integer ▪ Right alignment	123,000
3.	Quantity	Quantity of the corresponding media	▪ Positive integer ▪ Right alignment	2
4.	Scheduled time	Arrival date of the product(s)	▪ DD/MM/YYYY	
5.	Amoount	Total money of the corresponding media	▪ Comma for thousands separator ▪ Positive integer ▪ Right alignment	246,000
6.	Subtotal before VAT	Total price of products in the cart before VAT	▪ Comma for thousands separator ▪ Positive integer ▪ Right alignment	2,106,000
7.	Subtotal	Total price of products in the cart with VAT		2,316,600

9. Postconditions

The logs have been updated accordingly

4 Supplementary specification

4.1 Functionality

- The system needs to notify users of accurate information about items, accounts as well as orders. If any errors arise, the user must be notified.

-The system provides administrators with comprehensive control over products and customers.

4.2 Usability

- The system need to be friendly for user and easy for administrators to get acquainted with and manage.

- The system needs to be suitable on Windows and IOS platforms and smartphone.

4.3 Reliability

- AIMS Projects is a system which can be access anytime, serving about 1000 customers at the same time without any major loss in operating speed.

- The system is capable of operating continuously for about 300 hours without facing any major issues.

4.4 Performance

- The system needs to have a response latency as low as possible.

+, At usual condition, the system will respond after no more than 2 seconds of delay.

+, At peak hour where too many customers access the app at the same time, the system will respond after no more than 3 seconds of delay.

4.5 Maintainability

- Maximum continuous system maintenance time is 1 hours and it is necessary to ensure that the system operates correctly between two consecutive maintenance times.

4.6 Design Constraints

- Comply with the design principles mentioned in this document.

- Ensure database integrity.