

HANOI UNIVERSITY OF SCIENCE AND
TECHNOLOGY

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Use case specification

AN INTERNET MEDIA STORE

Subject: ITSS SOFTWARE DEVELOPMENT

Group 22

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1, Use case “Sign In”

Use Case “Sign In”

1. Use case code

UC001

2. Brief Description

This use case describes the process by which a user logs into the system by entering their username and password.

3. Actors

3.1 User: The person attempting to log into the system.

4. Preconditions

None

5. Basic Flow of Events

1. The User navigates to the login page of the application.
2. The User enters their username and password into the provided fields.
3. The system validates the entered username and password against the stored credentials in the database.
4. If the username and password are valid:
 - The system grants access to the User.
 - The User is redirected to their account/dashboard/home page.
 - End of basic flow.

6. Alternative flows

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step 5	If invalid username or password	<ul style="list-style-type: none">▪ The system displays an error message indicating the issues.▪ The User is prompted to re-enter their username and password.	Resumes at Step 3

7. Input data

Table A-Input data of ...

No	Data fields	Description	Mandatory	Valid condition	Example
1.	email	text	yes	email	test@test.com
2.	password	text	yes	length >= 6	password

8. Output data

Table B-Output data of ...

No	Data fields	Description	Display format	Example
1.	sessionId	the session id for user		23
2.	userId	the id of user		232

9. Postconditions

None

2, Use case “Sign Up”

Use Case “Sign Up”

1. Use case code

UC002

2. Brief Description

This use case describes the interaction between a new user (Actor) and the system when the user wishes to create a new account.

3. Actors

3.1 New User: The person who intends to create a new account on the system.

4. Preconditions

None

5. Basic Flow of Events

1. The New User navigates to the sign-up or registration page of the application.
2. The New User enters their required information into the registration form. This typically includes:
 - Email Address
 - Desired Username
 - Password
3. The system validates the entered information to ensure it meets the required criteria (e.g., valid email format, password strength).
4. If all entered information is valid:
 - The system creates a new account for the User using the provided details.
 - The User receives a confirmation message indicating successful registration.

- End of basic flow.

6. Alternative flows

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step 3	If existing email address or username existing	<ul style="list-style-type: none"> The system displays an error message indicating that the email address or username is already in use. The User is prompted to enter a different email address or username. 	Resumes at Step 2
2.	At Step 3	If invalid password.	<ul style="list-style-type: none"> The system displays an error message indicating the password requirements. The User is prompted to enter a valid password. 	Resumes at Step 2

7. Input data

Table A-Input data of sign up

No	Data fields	Description	Mandatory	Valid condition	Example
1.	username	text	yes		test
2.	password	text	yes		testtest
3.	email	text	text		test@test.com

8. Output data

Table B-Output data of sign up

No	Data fields	Description	Display format	Example
1.				

9. Postconditions

None

3, Use case “Create Product”

Use Case “Create Product”

1.

2. Use case code

UC003

3. Brief Description

This use case describes the interaction between Administrator and AIMS when Administrator wishes to create a new product in the system.

4. Actors

4.1 Administrator: the person who is adding the new product.

5. Preconditions

4.1. Administrator is logged in.

4.2. Administrator is in create product page.

6. Basic Flow of Events

1. The administrator clicks “create new product” button
2. The software displays required fields to add a product. (see table A1, A2, A3)
3. The administrator enters the required information.
4. The software checks for data integrity.
5. The administrator clicks on “add new product”.
6. The software saves newly added product to database.

7. Alternative flows

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step 4	If the info does not match the required type	▪ The system displays message, ask actor to re-enter info	Resumes at Step 3
2.	At step 3	If the actor clicks on “Back to product list”	▪ Redirect to product list	Use case ends

8. Input data

Table A1-Input data of category DVD

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Category	Drop-down list	Yes	None	CD

2.	Name	Input text	Yes	A text	The lord of the rings
3.	Description	Input text	Yes	text	Very good
4.	SKU	Input text	Yes	text	ABC123
5.	Price	type-in or increase/decrease button	Yes	float number	13.99
6.	Quantity	type-in or increase/decrease button	Yes	integer	11
7.	Weight	type-in or increase/decrease button	Yes	float number	1.22
8.	Track list	input text	None	text	evermore
9.	Genre	input text	None	text	pop
10.	Artist	input text	none	text	taylor swift
11.	Record Label	input text	none	text	music
12.	Albums	input text	none	text	evermore
13.	Release Date	chose from drop-down calendar	none	date	01/01/2023

Table A2-Input data of category Cd

No	Data fields	Description	Mandatory	Valid condition	Example
	Category	Drop-down list	Yes	None	Cd
2.	Name	Input text	Yes	A text	The lord of the rings
3.	Description	Input text	Yes	text	Very good
4.	SKU	Input text	Yes	text	ABC123
5.	Price	type-in or increase/decrease button	Yes	float number	13.99
6.	Quantity	type-in or increase/decrease button	Yes	integer	11

7.	Weight	type-in or increase/decrease button	Yes	float number	1.22
8.	Tracklist	input text	None	text	evermore
9.	Genre	input text	None	text	adventure
10.	Studio	input text	none	text	20th century
11.	Director	input text	none	text	JK Rowling
12.	Disc type	input text	none	text	hard
13.	Runtime	input text	none	text	1 hour
14.	Release Date	chose from drop-down calendar	none	date	01/01/2023

Table A3-Input data of category Book

No	Data fields	Description	Mandatory	Valid condition	Example
	Category	Drop-down list	Yes	None	Book
2.	Name	Input text	Yes	A text	The lord of the rings
3.	Description	Input text	Yes	text	Very good
4.	SKU	Input text	Yes	text	ABC123
5.	Price	type-in or increase/decrease button	Yes	float number	13.99
6.	Quantity	type-in or increase/decrease button	Yes	integer	11
7.	Weight	type-in or increase/decrease button	Yes	float number	1.22
8.	Tracklist	input text	None	text	evermore
9.	Genre	input text	None	text	adventure
10.	Publisher	input text	none	text	NXB trè
11.	Author	input text	none	text	JK Rowling

12.	Cover type	input text	none	text	hard
13.	Language	input text	none	text	English
14.	Publication Date	chose from drop-down calendar	none	date	01/01/2023
15.	Number of page	type-in or increase/decrease button	none	integer	129

9. Output data

Table B-Output data of ...

No	Data fields	Description	Display format	Example
1.				

10. Postconditions

4, Use case “View Product”

<p style="text-align: center;">Use Case “Name of use case”</p>	
1. Use case code	UC004
2. Brief Description	This use case describes the interaction between <actor(s)> and <name_of_the_system> when <actor(s)> wish(es) to ...
3. Actors	
3.1 Name of Actor 1	
4. Preconditions	
5. Basic Flow of Events	<ol style="list-style-type: none"> 1. The actor(s) ... 2. The software ... 3. The actor enters ... (see Table A) 4. The software displays ... (see Table B)
6. Alternative flows	

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step S	If ...	▪ Action 1	Resumes at Step Q
2.	At Step O	If ...	▪ Action 2	Use case ends

7. Input data**Table A-Input data of ...**

No	Data fields	Description	Mandatory	Valid condition	Example
1.					

8. Output data**Table B-Output data of ...**

No	Data fields	Description	Display format	Example
1.				

9. Postconditions**5, Use case “Update Product”****Use Case “Name of use case”****1. Use case code**

UC005

2. Brief Description

This use case describes the interaction between Administrator and AIMS when administrator wish(es) to update a product

3. Actors

3.1 Administrator:

4. Preconditions**5. Basic Flow of Events**

1. The actor(s) ...
2. The software ...
3. The actor enters ... (see Table A)

4. The software displays ... (see Table B)

6. Alternative flows

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step S	If ...	▪ Action 1	Resumes at Step Q
2.	At Step O	If ...	▪ Action 2	Use case ends

7. Input data

Table A-Input data of ...

No	Data fields	Description	Mandatory	Valid condition	Example
1.					

8. Output data

Table B-Output data of ...

No	Data fields	Description	Display format	Example
1.				

9. Postconditions

6, Use case “Delete Product”

Use Case “Name of use case”

1. Use case code

UC006

2. Brief Description

This use case describes the interaction between <actor(s)> and <name_of_the_system> when <actor(s)> wish(es) to ...

3. Actors

3.1 Name of Actor 1

4. Preconditions

5. Basic Flow of Events

1. The actor(s) ...
2. The software ...
3. The actor enters ... (see Table A)

4. The software displays ... (see Table B)

6. Alternative flows

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step S	If ...	▪ Action 1	Resumes at Step Q
2.	At Step O	If ...	▪ Action 2	Use case ends

7. Input data

Table A-Input data of ...

No	Data fields	Description	Mandatory	Valid condition	Example
1.					

8. Output data

Table B-Output data of ...

No	Data fields	Description	Display format	Example
1.				

9. Postconditions

7, Use case “Add Product to Cart”

Use Case “Add Product to Cart”

1. Use case code

UC007

2. Brief Description

This use case describes the interaction between customer and AIMS when customer wish to add the product to cart

3. Actors

3.1 Customer: The person who is adding the product to the cart.

3.2 AIMS System: The system handling the cart operations.

4. Preconditions

The customer is already logged in.

The customer is on the product page.

5. Basic Flow of Events

1. The customer select product and quantity
2. The customer click the “Add to Cart” button

3. AIMS validates the product availability.
4. AIMS adds the selected product and quantity to the customer's cart.
5. AIMS updates the cart icon with the number of items.
6. AIMS displays a confirmation message indicating the product has been added to the cart.

6. Alternative flows

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step 4	The product is out of stock	Displays an error message	Ends use case
2.	At Step 4	The entered quantity is not valid (e.g., exceeds available stock or is not a positive integer)	Displays an error message asking to enter a valid quantity	Step 1

7. Input data

Table A-Input data of ...

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Product ID	Unique identifier of the product	Yes	Must be a valid existing product ID	1
2.	Quantity	Number of items to add to cart	Yes	Must be a positive integer, \leq available stock	2
3.	session_id	session_id of the current user	Yes	Must be a valid existing session ID	1

8. Output data

Table B-Output data of ...

No	Data fields	Description	Display format	Example
1.	Confirmation Message	Message indicating product added successfully	Modal or toast notification	"Product added to successfully."

9. Postconditions

The product is successfully added to the customer's cart.

The cart icon is updated to reflect the new number of items.

The customer receives a confirmation message indicating the product has been added to the cart.

8, Use case “View Cart”

Use Case “View Cart”

1. Use case code

UC008

2. Brief Description

This use case describes the interaction between Customer and AIMS when Customer wish to view the Cart

3. Actors

3.1 Customer: The person who is viewing the cart.

3.2 AIMS System: The system handling the cart operations.

4. Preconditions

The customer is logged in.

5. Basic Flow of Events

1. Customer clicks the "View Cart" button or link.
2. AIMS retrieves the current contents of the customer's cart.
3. AIMS displays the cart contents including product details, quantities, prices, and total cost.

6. Alternative flows

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	Step 2	Cart is empty	Displays message "Your cart is empty."	Ends use case

7. Input data

Table A-Input data of ...

No	Data fields	Description	Mandatory	Valid condition	Example
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1.	session_id	session_id of the current user	Yes	Must be a valid existing session ID	1
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8. Output data

Table B-Output data of ...

No	Data fields	Description	Display format	Example
1.	Product Details	List of products in the cart including name, description, quantity, and price	Tabular format	"Product 1, 2 units, \$10 each"
2.	Total Cost	Total cost of all items in the cart	Text	"Total: \$20"
3.	Edit/Remove Options	Options to edit quantities or remove items	Buttons/links	"Edit, Remove"
4.	Checkout Button	Button to proceed to checkout	Button	"Checkout"

9. Postconditions

The customer successfully views the current contents of their cart.

The customer can choose to edit, remove items, or proceed to checkout from the cart view.

9, Use case “Update Cart”

Use Case “Update Cart”	
1. Use case code	UC009
2. Brief Description	This use case describes the interaction between Customer and AIMS when Customer wish to update cart
3. Actors	
3.1	Customer: The person who is updating the cart.

3.2 AIMS System: The system handling the cart operations.

4. Preconditions

The customer is logged in.

The customer has items in their cart.

5. Basic Flow of Events

1. Custom selects the option to view or update the cart.
2. AIMS displays the current contents of the cart.
3. Customers update the quantities of items or remove items from the cart. (See Table A)
4. AIMS validates the new quantities.
5. AIMS updates the cart with the new quantities or removes items as specified.
6. AIMS displays the updated cart contents, including new quantities, total cost, and any relevant messages. (See Table B)

6. Alternative flows

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step 4	Quantity exceeds available stock	Displays an error message "Quantity exceeds available stock."	Step 3
2.	At Step 4	Quantity is zero	Removes the item from the cart	Step 2
3.	At Step 4	Invalid item ID	Displays an error message "Invalid item ID."	Step 3

7. Input data

Table A-Input data of ...

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Product ID	Unique identifier of the product	Yes	Must be a valid existing product ID	P12345
2.	Updated Quantity	New quantity for the product	Yes	Must be a positive integer	3
3.	Remove Product Flag	Flag indicating whether the product should be removed	No	Must be a boolean value	true/false
4.	session_id	session_id of the current user	Yes	Must be a valid existing session ID	1

8. Output data

Table B-Output data of ...

No	Data fields	Description	Display format	Example
1.	Updated Cart	List of products in the cart including name, description, quantity, and price	Tabular format	"Product 1, 3 units, \$10 each"
2.	Total Cost	Total cost of all items in the cart	Text	"Total: \$30"
3.	Confirmation Message	Message confirming the cart has been updated	Modal or toast notification	"Cart updated successfully."
4.	Error Message	Error message if the update fails	Modal or toast notification	"Failed to update cart. Please try again."

9. Postconditions

- The cart is updated with the new quantities or items are removed.
- The total cost is recalculated and displayed.
- The customer receives a confirmation message indicating the cart has been successfully updated, or an error message if the update fails.

10, Use case “View Order”

Use Case “View Order”

1. Use case code

UC010

2. Brief Description

This use case describes the interaction between Customer and Order Management System when Customer wishes to view their order details.

3. Actors

- Customer

4. Preconditions

5. Basic Flow of Events

1. The software views the orders.
2. The customer selects an order. (see Table A)
3. The software displays the details of the order. (see Table B)

6. Alternative flows

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step 1	If customer has not placed any order yet	▪ The software displays message “No order found”	Use case ends
2.	At Step O	If ...	▪ Action 2	Use case ends

7. Input data

Table A-Input data of ...

No	Data fields	Description	Mandatory	Valid condition	Example
1.					

8. Output data

Table B-Output data of ...

No	Data fields	Description	Display format	Example
1.				

9. Postconditions

11, Use case “Place Order”

Use Case “Place Order”

1. Use case code

UC011

2. Brief Description

This use case describes the interaction between the software and the customer when the customer wants to place an order.

3. Actors

- Customer
- Admin

4. Preconditions

Customer must be in their working session and the cart is not empty.

5. Basic Flow of Events

1. Customer requests to place order in the cart
2. The software checks the availability of products in the cart
3. The software software displays the form of delivery information with order information
4. Customer enters and submits delivery information (see Table 1)
5. The software calculates and displays order and shipping fees (see Table 2)
6. The customer asks to pay order
7. The software calls UC “Pay order”
8. The software creates a new order
9. The software clears the cart
10. The software displays the successful order notification, the order and the transaction information (see Table 3).

6. Alternative flows

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step 5	If the delivery info is invalid	▪ § AIMS software notifies that the delivery info is invalid (blank or wrong format)	At Step 3
2.	At Step 8	If the order payment is not successful or goes back from payment	▪ §	At Step 5

7. Input data

Table A-Input data of delivery information

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Name	Full name of the customer	Yes		Vo Van Thanh
2	Phone Number	Contact number of the customer	Yes		0987654321
3	City	City of the customer's address	Yes		Hanoi
4	Address	Detailed address of the customer	Yes		Băng Liệt Street

8. Output data**Table B-Output data of order information and shipping fee**

No	Data fields	Description	Display format	Example
1.	Order ID	Unique identifier for the order	Numeric	12345
2	Order Date	Date when the order was placed	YYYY-MM-DD	2024-06-17
3	Customer Name	Full name of the customer	Text	Vo Van Thanh
4	Phone Number	Contact number of the customer		0987654321
5	City	City of the customer's address	Text	Hanoi
6	Address	Detailed address of the customer	Text	Băng Liệt Street
7	Total Amount	Total amount for the order	Currency (VND)	1,000,000 VND
8	Shipping Fee	Fee for shipping the order	Currency (USD)	5 USD
9	Payment Status	Status of the payment (e.g., Paid, Pending, Failed)	Text	Paid
10	Items	List of items in the order	JSON Array	[{"id":1,"name":"i", "quantity":2},

				{ "id":2,"name": "it "quantity":1}}
9. Postconditions A new order is created, and its information is sent via email to the customer or nothing happens if payment is not successful.				

12, Use case “Cancel Order”

<p style="text-align: center;">Use Case “Cancel Order”</p>				
1. Use case code UC012				
2. Brief Description This use case describes the interaction between the customer and the order management system when the customer wishes to cancel an order.				
3. Actors				
3.1 Name of Actor 1 Customer				
4. Preconditions The customer must be logged into the system. There must be at least one order placed by the customer that is eligible for cancellation (e.g., not yet shipped).				
5. Basic Flow of Events				
1. The customer navigates to the "My Orders" page. 2. The software displays a list of the customer's orders. 3. The customer selects an order they wish to cancel and clicks the "Cancel Order" button. 4. The software prompts the customer to confirm the cancellation. 5. The customer confirms the cancellation. 6. The software updates the order status to "Cancelled" and notifies the customer of the successful cancellation. 7. The software displays the updated order status and any related information (e.g., refund details).				
6. Alternative flows				
Table N-Alternative flows of events for UC Place order				
No	Location	Condition	Action	Resume location

1.	At Step 3	If the selected order is not eligible for cancellation (e.g., already shipped)	<ul style="list-style-type: none"> The software notifies the customer that the order cannot be cancelled. 	Resumes at Step 2
2.	At Step 5	If the customer decides not to confirm the cancellation	<ul style="list-style-type: none"> The software returns to the order details page. 	Use case ends

7. Input data

Table A-Input data of cancel order

No	Data fields	Description	Mandatory	Valid condition	Example
1.	Order ID	Unique identifier for the order	Yes	Must be a valid order ID	12345

8. Output data

Table B-Output data of order information and shipping fee

No	Data fields	Description	Display format	Example
1.	Order ID	Unique identifier for the order	Numeric	12345
2	Order Status	Status of the order after cancellation	Text	Cancelled
3	Refund Amount	Amount to be refunded to the customer	Currency (VND)	1,000,000 VND
4	Notification	Confirmation message to the customer	Text	Your order has successfully canceled

9. Postconditions

Order status is updated to "Cancelled".

Inventory is updated.

Customer is notified.

13, Use case “Pay Order”

Use Case “Pay Order”

1. Use case code

UC013

2. Brief Description

This use case describes the interaction between <actor(s)> and <name_of_the_system> when <actor(s)> wish(es) to ...

3. Actors

3.1 Name of Actor 1

4. Preconditions

5. Basic Flow of Events

1. The actor(s) ...
2. The software ...
3. The actor enters ... (see Table A)
4. The software displays ... (see Table B)

6. Alternative flows

Table N-Alternative flows of events for UC Place order

No	Location	Condition	Action	Resume location
1.	At Step S	If ...	▪ Action 1	Resumes at Step Q
2.	At Step O	If ...	▪ Action 2	Use case ends

7. Input data

Table A-Input data of ...

No	Data fields	Description	Mandatory	Valid condition	Example
1.					

8. Output data

Table B-Output data of ...

No	Data fields	Description	Display format	Example
1.				

9. Postconditions