Tutorial 09: Use Case Evaluation

Examine the excerpts from the following use cases and find the errors in the interactions. Re-write as necessary.

Problem 1

Use case: **Log In**

    Actor(s):   Client, Administrator

Flow of Activities:

Actor	System
1. Client clicks on log in button.	2. System requests identification for user.
3. Client enters account name and password then clicks on log in button.	4. System authenticates details by matching it with the details on the record.
	5. If correct then system signs in client.

Exceptional Conditions:

• **Step 6**: If log in details is incorrect then back to step 3 and display "incorrect username or password". And after 3 times false tries, use case ends.

Errors: Problem 1

	Error	Reason
1	Missing sections	Pre-, and post-conditions, triggering event, stakeholders, related use cases, etc.
2	'clicks on log in button'	Implementation detail
3	Numbering system	Should be in the format 1 -> 1.1 and not incremented a full point each step
4	Use case (*Log In*)	If not part of actual business rule, then is a system control and should fall under perfect technology assumption
5	Exception condition	Doesn't match the corresponding step number in activity flow (i.e., should be 5.

Corrected: <u>Problem 1</u>

Use case:	Log in	
Scenario:	This use case involves allowing an authorised user to login to the system.	
Triggering event:	The client wants to login.	
Brief description:	This use case facilitates authorised users to access the system by entering their credentials, and then authenticating the user.	
Actors:	Client	
Related use cases:	The client may want to *Log out*.	
Stakeholders:	Account management, system administration, information security	
Pre-condition(s):	Client has valid credentials	
Post-condition(s):	The client is authenticated	
Flow of activities:	**Actor**	**System**
	1. Client selects login	1.1 System requests credentials
	2. Client enters credentials	2.1 System validates credentials 2.2 System authenticates client
Exception conditions:	2.2 IF the client provides invalid credentials, THEN goto step 1.1 and display '*Invalid credentials, please retry.*' IF three invalid attempts, THEN end use case.	

Problem 2

Use case:	**Payment**
Actor(s):	Client
Overview:	<This Use Case begins when the client buy the insure product This Use Case allows client to pay or part-pay invoice online. And also facilitate client to pay through different methods via cheque, cash or through credit card

Flow of Activities:

Actor	System
1. Client pay invoice online.	2. System shows appointment details and balance.
3. Client checks the payment amount and chooses to pay or part-pay the invoice and enters the account number, name, security number and other information.	4. System authenticates payment information.
	5. If correct then system records paid or part-paid

Exceptional Conditions:

- Step 2: If payment information is incorrect then back to step 3 and display "payment unsuccessful" and use case ends.

Errors: Problem 2

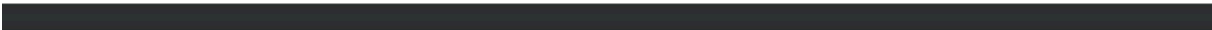|	Error	Reason
1	Missing sections	Triggering event, stakeholders, pre- and post-conditions, etc.
2	Numbering system	Should be in the format 1 -> 1.1 and not incremented a full point each step
3	Poor use case name (*Payment*)	Should be in verb-noun format
4	Exception condition	Number doesn't cohere with corresponding activity
5	Poorly described activities	Should be descriptive of each action
6	Inconsistent activities and overview	No mention of different payment methods in activity flow

Corrected: <u>Problem 2</u>

Use case:	Pay invoice	
Scenario:	This use case involves online customers making either full or part payments of an invoice.	
Triggering event:	Invoice issued	
Brief description:	This use case begins when an invoice is created and issued to a customer, who then chooses to either make a full or part payment via one of the online methods.	
Actors:	Customer, Bank	
Related use cases:	Customer may either Part-pay invoice or Full-pay invoice	
Stakeholders:	Sales, Marketing, Accounts receivable	
Pre-condition(s):	Customer is logged in and has an invoice to pay.	
Post-condition(s):	The client has an invoice payment recorded.	
Flow of activities:	**Actor(s)**	**System**
	1. Customer selects to make a payment	1.1 System displays active invoices
	2. Customer selects an invoice	2.1 System returns invoice details and payment methods
	3. Customer selects a payment method and enters payment amount	3.1 System provides required fields for payment method selected
	4. Customer enters required details	4.1 System validates required information then submits payment details to financial institution
	5. Bank processes transaction and returns receipt number	5.1 IF payment < invoice amount, THEN process *Part-pay invoice* use case, ELSE perform *Full-pay invoice*
		5.2 Display payment receipt and account balance
Exception conditions:	1.1 IF Customer has no outstanding invoices, THEN notify customer and end use case 4.1 IF Customer enters invalid details, THEN return to 3.1 and display '*Invalid details, please retry*' 5. IF customer has insufficient funds or has provided invalid details, THEN payment processor will notify system 5.1 System notifies client of failed transaction, return to 2.1	

Problem 3

Use case: **Creating Invoice**
Actor(s):   Administrator
Purpose: Creating Invoice.
Preconditions: N/A
Postconditions: Payment is to be made by client from one of the given method
of online payment.

Flow of Activities:

Actor	System

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	1. Create the payment invoice
	2. Send to the client

Exceptional Conditions:

- N/A

Errors: Problem 3

	Error	Reason
1	Missing sections	Stakeholders, related use cases, etc.
2	Flow of activities start point	Action should always be initiated by the actor
3	Pre- and exception-conditions	Both absent
4	Flow of activities	Actor's absent
5	Use case	Too small a case; could be incorporated into one '*Send invoice*' use case
6	Inconsistent post-condition	Post-condition doesn't match use case stated purpose

Corrected: <u>Problem 3</u>

Use case:	Create invoice
Scenario:	The use case involves the system creating an invoice once a customer has made a purchase
Triggering event:	The customer has purchased some items
Brief description:	This use case begins when a customer has made a purchase that requires an invoice. The invoice is generated based on the purchased items, and is associated with the customer account, concluding the use case.
Actors:	Customer
Related use cases:	N/A
Stakeholders:	Sales, Accounts, Administration
Pre-condition(s):	Customer is logged in and has an inventory of items to purchase
Post-condition(s):	The customer has an invoice associated with their account

Flow of activities:	**Actor**	**System**
	1. The customer confirms items for purchase	1.1 System creates an invoice 1.2 System associates the invoice with the customer account 1.3 System notifies customer of the new invoice

Exception conditions:	1.1 The customer does not confirm purchase, end use case.