

Use Case Testing Tutorial

Use Case Testing:

A use case is a description of a particular use of the system by a user. Each use case describes the user interactions with the system, to achieve a specific task. Use case testing is a technique that helps to identify test cases that exercise the system on a transaction by transaction basis from start to finish. It helps in designing acceptance testing, and identifying integration defects and defects from common real life scenarios.

In use case testing, we review the use case e.g. the ATM cash withdrawal use case should only have the steps related to cash withdrawal, not the steps to view balance or deposit cash because the latter steps belong to other use cases. The use case should list all the steps in the normal workflow (scenario). Each step in the use case should be testable. The use case should list each alternate workflow. We design test cases to test the normal workflow and each alternate workflow. We can design the test data using other test design techniques like equivalence partitioning and boundary value analysis. When we run the test cases, we should look out for any missing workflow(s), any missing step(s) in any workflow, boundary value defects etc.

Use Case Name: Cash withdrawal

Actors: Customer, Bank

Description: This use case describes how the Customer uses the ATM system to withdraw cash from his/ her bank account.

Pre-conditions:

1. The ATM system is online.
2. The ATM system has sufficient cash available.

Normal workflow:

1. The Customer will insert their debit card.
2. The System will prompt for the PIN.
3. The Customer will enter the PIN.
4. The System will display the option to “Withdraw Cash”.
5. The Customer will select the option to withdraw cash.
6. The System will prompt for an amount.
7. The Customer will enter an amount.
8. The System will submit the amount to the Bank for approval.
9. The Bank will confirm the transaction.
10. The System will dispense the cash amount.
11. The System will return the card.
12. The use case ends with a success.

Alternate workflows:

4a. If the PIN is invalid,

1. The System will return the card.
2. The use case ends with a failure.

8a. If the amount is invalid (see additional business rules),

1. The System will display an error message and prompt for another amount.
2. The use case resumes at step 7.

10a. If the Bank declines the transaction,

1. The System will return the card.
2. The use case ends with a failure.

3a,5a,7a If the Customer selects the option to "Cancel",

1. The System will return the card.
2. The use case ends.

Design Test Cases:

Test Case(s)	Steps	Expected Results
Test Case	<i>Cash withdrawal1 – Normal Workflow</i>	
1.	insert debit card	The System will prompt for the PIN.
2.	enter the PIN	The System will display the option to “Withdraw Cash”.
3.	select the option to withdraw cash	The System will prompt for an amount.
4.	enter a valid amount	The System will dispense the cash amount. The System will return the card.

Test Case(s)	Steps	Expected Results
Test Case	<i>Cash withdrawal2 –invalid PIN</i>	
1.	Repeat Step 1) from <i>Cash withdrawal 1</i>	The System will return the card.
2.	enter the PIN	

Test Case(s)	Steps	Expected Results
Test Case	<i>Cash withdrawal3 –invalid amount</i>	
1.	Repeat Step 1) to 4) of <i>Cash withdrawal 1</i> with <i>\$101(invalid amount)</i>	The System will display an error message and prompt for another amount.
2.	Repeat Step 1) to 4) of <i>Cash withdrawal 1</i> with <i>\$0 (invalid amount)</i>	The System will display an error message and prompt for another amount.

Test Case(s)	Steps	Expected Results
Test Case	<i>Cash withdrawal4– Transaction Declined</i>	
1.	Repeat Step 1) to 4) of <i>Cash withdrawal 1</i> with <i>amount > account balance (invalid amount)</i>	The System will return the card.

Test Case(s)	Steps	Expected Results
Test Case	<i>Cash withdrawal5–Cancel Transaction</i>	
1.	Repeat Step 1) of <i>Cash withdrawal 1</i>	
2.	Select the option “cancel”	The System will return the card.
3.	Repeat Step 1) and 2) from <i>Cash withdrawal 1</i>	
4.	Select the option “cancel”	The System will return the card.
5.	Repeat Step 1) to 3) from <i>Cash withdrawal 1</i>	
6.	Select the option “cancel”	The System will return the card.