

## [S4A0-20] MFT: Correct PIN re-entry requires entering PIN twice

Created: 28/Jan/26 Updated: 30/Jan/26

Status:	OPEN
Project:	<a href="#">SENG 438 Assignment 01</a>
Components:	None
Affects versions:	None
Fix versions:	None

Type:	Bug	Priority:	High
Reporter:	<a href="#">Muhammad Zain</a>	Assignee:	<a href="#">Muhammad Zain</a>
Resolution:	Unresolved	Votes:	0
Labels:	MFT		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original estimate:	Not Specified		

Rank:	0 i0006f:
Sprint:	
Steps to Reproduce:	<ol style="list-style-type: none"> <li>Turn on the ATM system and enter a valid initial cash amount</li> <li>Insert a valid ATM card</li> <li>Enter an <b>incorrect PIN</b></li> <li>When prompted, enter another <b>incorrect PIN</b></li> <li>When prompted again, enter the <b>correct PIN</b></li> <li>Observe system behavior</li> </ol>
Expected Result:	After entering the correct PIN following one or more incorrect attempts, the system should immediately proceed to the transaction selection menu without requiring additional PIN entry.
Initial System State:	ATM system powered ON ATM initialized with a valid cash amount System idle and ready for customer interaction No active session Valid ATM card available with a known correct PIN
Actual Result:	After entering the correct PIN, the system validates the PIN but returns to the PIN entry prompt. The customer is required to enter the correct PIN <b>a second time</b> before the transaction menu is displayed.
Version:	1.0

### Description

During MFT of the Invalid PIN Extension, the ATM incorrectly handles PIN re-entry after one or more incorrect PIN attempts. When a customer enters the correct PIN following an incorrect

attempt, the system validates the PIN but then loops back to the PIN entry prompt instead of proceeding to the transaction menu. The customer must enter the correct PIN a second time before being allowed to continue.

This behavior is inconsistent with the specified authentication flow and occurs across multiple test cases.

## Comments

Comment by [Muhammad Zain](#) [28/Jan/26]

Identified during:

- Manual Functional Testing only

This defect was initially identified during exploratory testing and was later confirmed during Manual Functional Testing.

Appendix C – Test Cases 37, 39, and 40 fail due to this behavior.

Regression Testing (Version 1.1):

Retested Invalid PIN Extension flow.

Issue persists - after entering the correct PIN following incorrect attempts, the system still loops back to the PIN entry prompt and requires re-entering the correct PIN.

**[S4A0-16] ATM enters inconsistent system state after sequence of valid transactions** Created: 28/Jan/26 Updated: 30/Jan/26

Status:	OPEN
Project:	<a href="#">SENG 438 Assignment 01</a>
Components:	None
Affects versions:	None
Fix versions:	None

Type:	Bug	Priority:	High
Reporter:	<a href="#">Muhammad Zain</a>	Assignee:	<a href="#">Muhammad Zain</a>
Resolution:	Unresolved	Votes:	0
Labels:	Exploratory		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original estimate:	Not Specified		

Rank:	0 i0005j:
Sprint:	
Steps to Reproduce:	<ol style="list-style-type: none"> <li>1. Insert a valid card.</li> <li>2. Enter the correct PIN.</li> <li>3. Perform multiple valid transactions in sequence (e.g., withdrawal, deposit, transfer).</li> <li>4. Attempt an additional transaction or view account balances.</li> </ol>
Expected Result:	The ATM should maintain a consistent and correct system state regardless of the sequence of valid transactions performed.
Initial System State:	ATM system is running with sufficient cash loaded. Card is inserted and user is authenticated. Account balances and ATM cash are in a known initial state.
Actual Result:	After a sequence of transactions, the ATM behaves inconsistently, displaying incorrect balances or processing transactions incorrectly.
Version:	1.0

**Description**

**The system entering an inconsistent or incorrect state after a sequence of valid operations,** even if each operation individually appears allowed.

That is a **state corruption / sequence-dependency defect**.

### Comments

Comment by [Muhammad Zain](#) [ 29/Jan/26 ]

Identified during:

- Exploratory Testing only

Regression tested in version 1.1 using Card 01.

Issue is NOT fixed.

After a valid sequence (withdrawal → deposit → transfer), the system enters an inconsistent state.

Balance inquiry incorrectly dispenses \$500, and account balances remain inconsistent.

## [S4A0-15] [ATM transaction logs do not reflect actual executed operations](#)

Created: 28/Jan/26 Updated: 30/Jan/26

<b>Status:</b>	OPEN
<b>Project:</b>	<a href="#">SENG 438 Assignment 01</a>
<b>Components:</b>	None
<b>Affects versions:</b>	None
<b>Fix versions:</b>	None

<b>Type:</b>	Bug	<b>Priority:</b>	High
<b>Reporter:</b>	<a href="#">Muhammad Zain</a>	<b>Assignee:</b>	<a href="#">Muhammad Zain</a>
<b>Resolution:</b>	Unresolved	<b>Votes:</b>	0
<b>Labels:</b>	Exploratory		
<b>Remaining Estimate:</b>	Not Specified		
<b>Time Spent:</b>	Not Specified		
<b>Original estimate:</b>	Not Specified		

<b>Rank:</b>	0 i0005b:
<b>Sprint:</b>	
<b>Steps to Reproduce:</b>	<ol style="list-style-type: none"> <li>1. Insert a valid card.</li> <li>2. Enter the correct PIN.</li> <li>3. Perform a transaction such as a withdrawal, deposit, or transfer.</li> <li>4. Observe the transaction details displayed or logged by the system.</li> </ol>
<b>Expected Result:</b>	Transaction logs should accurately record the type of transaction performed, the accounts involved, and the transaction amount.
<b>Initial System State:</b>	ATM system is running with sufficient cash loaded. Card is inserted and user is authenticated. Transaction logging is enabled by default.
<b>Actual Result:</b>	Transaction logs display incorrect or misleading information that does not match the actual transaction executed.
<b>Version:</b>	1.0

### Description

ATM transaction logs do not accurately reflect executed operations

The ATM records transaction log entries that do not accurately reflect the actual operation performed, including incorrect account direction or transaction details.

## Comments

Comment by [Muhammad Zain](#) [ 29/Jan/26 ]

Identified during:

- Exploratory Testing only

Regression Testing (Version 1.1):

Logs still show incorrect transaction details; issue persists.

[S4A0-14] [ATM displays stale or outdated balance information during navigation](#) Created: 28/Jan/26 Updated: 30/Jan/26

<b>Status:</b>	OPEN
<b>Project:</b>	<a href="#">SENG 438 Assignment 01</a>
<b>Components:</b>	None
<b>Affects versions:</b>	None
<b>Fix versions:</b>	None

<b>Type:</b>	Bug	<b>Priority:</b>	Low
<b>Reporter:</b>	<a href="#">Muhammad Zain</a>	<b>Assignee:</b>	<a href="#">Muhammad Zain</a>
<b>Resolution:</b>	Unresolved	<b>Votes:</b>	0
<b>Labels:</b>	Exploratory		
<b>Remaining Estimate:</b>	Not Specified		
<b>Time Spent:</b>	Not Specified		
<b>Original estimate:</b>	Not Specified		

<b>Rank:</b>	0 i00053:
<b>Sprint:</b>	
<b>Steps to Reproduce:</b>	<ol style="list-style-type: none"> <li>1. Insert a valid card.</li> <li>2. Enter the correct PIN.</li> <li>3. Perform a transaction that modifies an account balance.</li> <li>4. Navigate back to the main menu or between transaction screens.</li> <li>5. Observe the balance information displayed on the screen.</li> </ol>
<b>Expected Result:</b>	The ATM should consistently display the most up-to-date balance information during all navigation steps.
<b>Initial System State:</b>	ATM system is running with sufficient cash loaded. Card is inserted and user is authenticated. An account balance has been modified by a previous transaction.
<b>Actual Result:</b>	The ATM displays outdated or incorrect balance values while navigating between screens.
<b>Version:</b>	1.0

**Description**

ATM displays stale balance information during navigation.

The ATM displays outdated or incorrect balance information while navigating between menus, even after transactions have been performed.

### Comments

Comment by [Muhammad Zain](#) [ 29/Jan/26 ]

Identified during:

- Exploratory Testing only

Regression Testing (Version 1.1):

Stale balance values still appear during navigation.

<b>[S4A0-13] ATM inconsistently enables or disables account selection options</b>		Created: 28/Jan/26 Updated: 30/Jan/26 Resolved: 30/Jan/26
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<b>Status:</b>	VERIFIED
<b>Project:</b>	<a href="#">SENG 438 Assignment 01</a>
<b>Components:</b>	None
<b>Affects versions:</b>	None
<b>Fix versions:</b>	None

<b>Type:</b>	Bug	<b>Priority:</b>	Medium
<b>Reporter:</b>	<a href="#">Muhammad Zain</a>	<b>Assignee:</b>	<a href="#">Muhammad Zain</a>
<b>Resolution:</b>	Done	<b>Votes:</b>	0
<b>Labels:</b>	Exploratory		
<b>Remaining Estimate:</b>	Not Specified		
<b>Time Spent:</b>	Not Specified		
<b>Original estimate:</b>	Not Specified		

<b>Rank:</b>	0 i0004v:
<b>Sprint:</b>	
<b>Steps to Reproduce:</b>	<ol style="list-style-type: none"> <li>1. Insert a valid card.</li> <li>2. Enter the correct PIN.</li> <li>3. Navigate to different transaction types (withdraw, deposit, transfer).</li> <li>4. Observe the availability of account options.</li> <li>5. Repeat the same steps with another card if available.</li> </ol>
<b>Expected Result:</b>	Account options should be consistently available or unavailable based on system rules.
<b>Initial System State:</b>	ATM system is running with sufficient cash loaded. Card is inserted and user is authenticated. Multiple account types are associated with the card.
<b>Actual Result:</b>	Account availability changes inconsistently across transactions or cards without clear rules.
<b>Version:</b>	1.0

<b>Description</b>	
ATM inconsistently enables or disables account selection.	
The ATM inconsistently enables or disables account options during transactions, resulting in valid accounts being unavailable or incorrectly rejected.	

## Comments

Comment by [Muhammad Zain](#) [ 29/Jan/26 ]

Identified during:

- Exploratory Testing only

Regression Testing (Version 1.1):

Retested account selection behavior across multiple transaction types.

Account options are now consistently enabled or disabled according to system rules.

Defect is no longer observed in Version 1.1.

## [S4A0-12] ATM applies account type validation inconsistently across transactions

Created: 28/Jan/26 Updated: 30/Jan/26

Status:	OPEN
Project:	<a href="#">SENG 438 Assignment 01</a>
Components:	None
Affects versions:	None
Fix versions:	None

Type:	Bug	Priority:	High
Reporter:	<a href="#">Muhammad Zain</a>	Assignee:	<a href="#">Muhammad Zain</a>
Resolution:	Unresolved	Votes:	0
Labels:	Exploratory, MFT		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original estimate:	Not Specified		

Rank:	0 i0004n:
Sprint:	
Steps to Reproduce:	<ol style="list-style-type: none"> <li>1. Insert a valid card.</li> <li>2. Enter the correct PIN.</li> <li>3. Select an account type.</li> <li>4. Attempt a transaction such as withdrawal, deposit, or transfer.</li> <li>5. Repeat the same type of transaction with a different account type.</li> </ol>
Expected Result:	The ATM should consistently enforce account-type rules, allowing or rejecting transactions according to documented requirements.
Initial System State:	ATM system is running with sufficient cash loaded. Card is inserted and user is authenticated. Multiple account types (e.g., checking, savings, money market) are available for the card.
Actual Result:	The ATM inconsistently allows or rejects transactions for different account types without clear or consistent rules.
Version:	1.0

### Description

The ATM inconsistently validates account types across different transactions, resulting in valid operations being rejected for certain account types while allowed for others.

## Comments

Comment by [Muhammad Zain](#) [ 28/Jan/26 ]

Identified during:

- Exploratory Testing
- Manual Functional Testing

This defect was initially identified during exploratory testing and later confirmed during Manual Functional Testing.

Appendix C – Test Case 33 and Test Case 34 fail due to inconsistent account type validation during inquiry transactions.

Regression Testing (Version 1.1):

Although the correct balance values are now displayed, the defect is still present. The system displays an unexplained "\$500" value in the lower panel (below Simulated ATM Display) and shows an "Unknown Error" message during a valid inquiry operation.

## [S4A0-11] [Cancel action does not properly abort an in-progress transaction](#)

Created: 28/Jan/26 Updated: 30/Jan/26

Status:	OPEN
Project:	<a href="#">SENG 438 Assignment 01</a>
Components:	None
Affects versions:	None
Fix versions:	None

Type:	Bug	Priority:	High
Reporter:	<a href="#">Muhammad Zain</a>	Assignee:	<a href="#">Muhammad Zain</a>
Resolution:	Unresolved	Votes:	0
Labels:	Exploratory		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original estimate:	Not Specified		

Rank:	0 i0004f:
Sprint:	
Steps to Reproduce:	<ol style="list-style-type: none"><li>1. Insert a valid card.</li><li>2. Enter the correct PIN.</li><li>3. Select an account.</li><li>4. Initiate a transaction (e.g., withdrawal or deposit).</li><li>5. Press the Cancel option before completing the transaction.</li></ol>
Expected Result:	The ATM should immediately abort the transaction and return to a safe state without applying any changes.
Initial System State:	ATM system is running with sufficient cash loaded. Card is inserted and user is authenticated. A transaction has been initiated but not yet completed.
Actual Result:	The ATM does not cancel the transaction and continues processing or remains in an incorrect state.
Version:	1.0

Description
Cancel action does not abort transaction.
The ATM does not properly cancel an in-progress transaction when the Cancel option is selected.

## Comments

Comment by [Muhammad Zain](#) [ 29/Jan/26 ]

Identified during:

- Exploratory Testing only

This defect was identified during exploratory testing.

Regression Testing (Version 1.1):

Retested transaction cancellation using the original reproduction steps.

The issue is still reproducible in Version 1.1, as the Cancel action does not properly abort the transaction or return the system to a safe state.

## [S4A0-10] ATM processes transfer with incorrect account direction and amount

Created: 28/Jan/26 Updated: 30/Jan/26

<b>Status:</b>	OPEN
<b>Project:</b>	<a href="#">SENG 438 Assignment 01</a>
<b>Components:</b>	None
<b>Affects versions:</b>	None
<b>Fix versions:</b>	None

<b>Type:</b>	Bug	<b>Priority:</b>	High
<b>Reporter:</b>	<a href="#">Muhammad Zain</a>	<b>Assignee:</b>	<a href="#">Muhammad Zain</a>
<b>Resolution:</b>	Unresolved	<b>Votes:</b>	0
<b>Labels:</b>	Exploratory, MFT		
<b>Remaining Estimate:</b>	Not Specified		
<b>Time Spent:</b>	Not Specified		
<b>Original estimate:</b>	Not Specified		

<b>Rank:</b>	0 i00047:
<b>Sprint:</b>	
<b>Steps to Reproduce:</b>	<ol style="list-style-type: none"> <li>1. Insert a valid card.</li> <li>2. Enter the correct PIN.</li> <li>3. Select the Transfer option.</li> <li>4. Choose a source account and a destination account.</li> <li>5. Enter a transfer amount.</li> <li>6. Confirm the transfer.</li> </ol>
<b>Expected Result:</b>	The ATM should transfer the exact amount entered from the selected source account to the selected destination account.
<b>Initial System State:</b>	ATM system is running with sufficient cash loaded. Card is inserted and user is authenticated. Source and destination accounts both exist and have sufficient balance.
<b>Actual Result:</b>	The ATM applies the transfer using an incorrect amount and/or reverses the source and destination accounts.
<b>Version:</b>	1.0

### Description

ATM processes transfers with incorrect direction and amount.

The ATM processes transfer transactions incorrectly by applying the transfer in the wrong direction and/or using an incorrect transfer amount.

## Comments

Comment by [Muhammad Zain](#) [ 28/Jan/26 ]

Identified during:

- Exploratory Testing
- Manual Functional Testing

This defect was initially identified during exploratory testing and later confirmed during Manual Functional Testing.

Appendix C – Test Case 29 failed due to this behavior.

The transfer is applied in the wrong direction, and the amount transferred does not match the amount entered by the user.

Regression Testing (Version 1.1):

Retested transfer transactions using the original reproduction steps.

The issue is still reproducible in Version 1.1, as the source and destination accounts are reversed compared to the user's selection.

## [S4A0-9] ATM displays incorrect available balance after transactions

Created:

28/Jan/26 Updated: 30/Jan/26 Resolved: 29/Jan/26

Status:	VERIFIED
Project:	<a href="#">SENG 438 Assignment 01</a>
Components:	None
Affects versions:	None
Fix versions:	None

Type:	Bug	Priority:	High
Reporter:	<a href="#">Muhammad Zain</a>	Assignee:	<a href="#">Muhammad Zain</a>
Resolution:	Done	Votes:	0
Labels:	Exploratory, MFT		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original estimate:	Not Specified		

Rank:	0 i0003z:
Sprint:	
Steps to Reproduce:	<ol style="list-style-type: none"> <li>1. Insert a valid card.</li> <li>2. Enter the correct PIN.</li> <li>3. Select an account with sufficient balance.</li> <li>4. Perform a transaction (withdrawal, deposit, or transfer).</li> <li>5. View the displayed available balance.</li> </ol>
Expected Result:	The available balance should match the account's actual balance after the transaction completes.
Initial System State:	ATM system is running with sufficient cash loaded. Card is inserted and user is authenticated. Selected account has a known initial balance.
Actual Result:	The available balance does not update correctly and does not reflect the account's actual balance.
Version:	1.0

### Description

ATM displays incorrect available balance after transactions.

The ATM displays an available balance that does not accurately reflect the account's actual balance after transactions are completed.

## Comments

Comment by [Muhammad Zain](#) [ 28/Jan/26 ]

Identified during:

- Exploratory Testing
- Manual Functional Testing

This defect was initially identified during exploratory testing and was later confirmed during Manual Functional Testing.

Appendix C – Test Case 22 and Test Case 29 failed due to this behavior.

Regression Testing (Version 1.1):

Retested balance display using inquiry and transfer transactions.

Observed that TOTAL BALANCE and AVAILABLE BALANCE now match correctly after transactions.

The issue is no longer reproducible.

## [S4A0-8] ATM calculates incorrect account balance after deposit transaction

Created: 28/Jan/26 Updated: 30/Jan/26

Status:	OPEN
Project:	<a href="#">SENG 438 Assignment 01</a>
Components:	None
Affects versions:	None
Fix versions:	None

Type:	Bug	Priority:	High
Reporter:	<a href="#">Muhammad Zain</a>	Assignee:	<a href="#">Muhammad Zain</a>
Resolution:	Unresolved	Votes:	0
Labels:	Exploratory, MFT		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original estimate:	Not Specified		

Rank:	0 i0003r:
Sprint:	
Steps to Reproduce:	<ol style="list-style-type: none"><li>1. Insert a valid card.</li><li>2. Enter the correct PIN.</li><li>3. Select a valid account type.</li><li>4. Choose the Deposit option.</li><li>5. Enter a deposit amount.</li><li>6. Complete the deposit transaction.</li><li>7. Observe the updated account balance.</li></ol>
Expected Result:	The ATM should increase the selected account balance by the exact deposited amount.
Initial System State:	ATM system is running with sufficient cash loaded. Card is inserted and user is authenticated. Selected account has a known initial balance prior to deposit.
Actual Result:	The ATM updates the account balance incorrectly, resulting in a total balance that does not reflect the deposited amount.
Version:	1.0

### Description

After completing a deposit transaction, the ATM updates the account balance incorrectly. The resulting total balance is consistently lower than expected, indicating that part of the deposited amount is not being applied.

## Comments

Comment by [Muhammad Zain](#) [ 29/Jan/26 ]

Identified during:

- Exploratory Testing
- Manual Functional Testing

This defect was initially identified during exploratory testing and was later confirmed during Manual Functional Testing.

Appendix C – Test Case 22 fails due to the same behavior.

Regression Testing (Version 1.1):

Retested using the original reproduction steps.

The issue is still reproducible in Version 1.1, as the system continues to deduct an incorrect amount from the deposited balance.

## [S4A0-6] ATM dispenses incorrect cash amount during withdrawal

Created: 26/Jan/26 Updated: 30/Jan/26 Resolved: 29/Jan/26

Status:	VERIFIED
Project:	<a href="#">SENG 438 Assignment 01</a>
Components:	None
Affects versions:	None
Fix versions:	None

Type:	Bug	Priority:	High
Reporter:	<a href="#">Muhammad Zain</a>	Assignee:	<a href="#">Muhammad Zain</a>
Resolution:	Done	Votes:	0
Labels:	Exploratory, MFT		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original estimate:	Not Specified		

Rank:	0 i0003j:
Sprint:	
Steps to Reproduce:	<ol style="list-style-type: none"> <li>1. Insert a valid card.</li> <li>2. Enter the correct PIN.</li> <li>3. Select a valid account type with sufficient balance.</li> <li>4. Choose the Withdraw option.</li> <li>5. Enter a withdrawal amount (e.g., \$20).</li> <li>6. Confirm the transaction.</li> </ol>
Expected Result:	The ATM should dispense the exact amount requested by the user and deduct the same amount from the selected account balance.
Initial System State:	ATM system is running with sufficient cash loaded. Card is inserted and user is authenticated. Checking or Money Market account has sufficient balance for the requested withdrawal.
Actual Result:	The ATM dispenses a larger amount than requested and deducts the incorrect amount from the account balance.
Version:	1.0

### Description

The ATM dispenses an incorrect amount of cash during withdrawal transactions. Selecting a withdrawal amount (e.g., \$20) results in a different amount being dispensed (e.g., \$40), leading to incorrect account balance updates.

### Comments

Comment by [Muhammad Zain](#) [ 28/Jan/26 ]

Identified during:

- Exploratory Testing
- Manual Functional Testing

This defect was initially identified during exploratory testing and later confirmed during Manual Functional Testing.

Appendix C – Test Case 14 failed due to this behavior.

Regression Testing (Version 1.1):

Retested using the original reproduction steps.

The issue is no longer reproducible and the system behaves as expected.

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