

## Test plan for ATM Bank Machine

### Withdrawal

1. Verify that a user should be able to choose which of their accounts they'd like to make a withdrawal from.
2. Verify that a user is able to withdraw cash from their account with an amount less than or equal to their account balance. The amount of cash dispensed should equal the amount entered for withdrawal and the account balance should be reduced by the amount entered for withdrawal.
3. Verify that after beginning a withdrawal transaction, the user should have the option to cancel the transaction until it is complete.
4. Verify that a user is not able to withdraw cash from their account with an amount greater than their account balance. An error message should be displayed informing the user they entered an amount greater than their balance, no cash should dispense, the account balance should remain unchanged, and the user should be able to correct this.
5. Verify that a user cannot withdraw cash below the minimum required. An error message should be displayed asking the user to withdraw more than the minimum, no cash should dispense, the account balance should remain unchanged, and the user should be able to correct this.
6. Verify that if the user has any ATM transaction limits in place, the user is not able to withdraw greater than the limit. An error message indicating this limit should be displayed, no cash should be dispensed, the account balance should remain unchanged, and the user should be able to correct this.
7. Verify that if the ATM machine does not have enough cash for the withdrawal, a withdrawal cannot be made. An error message should be displayed to inform the user there isn't enough cash, no cash should be dispensed, and the account balance should remain unchanged.
8. Verify that if a power outage occurs during the transaction, the transaction should automatically be cancelled.
9. Verify that if a malfunction occurs while the ATM is attempting to dispense and cash cannot be dispensed, an error message should be displayed, the withdrawal should be cancelled, and the account balance should remain unchanged.

### Card reader

1. Verify that when a valid card is placed in the card reader, the card is accepted and the user is asked to enter their PIN.
2. Verify that placing an invalid card in the card reader should provide an error message to the user and the card should be returned.

### Login/Authentication

1. Verify that entering a correct PIN should log in the user and they should have access to their account details and balances.
2. Verify that entering an incorrect PIN should provide the user with an error message, the user should not have access to their account details, and the user should be asked to enter their PIN again.

### Security

1. Verify that when entering a PIN, the PIN should be masked on the ATM's display/screen.

### Exiting

1. Verify that once the user has ended their session with the ATM machine, they should be logged out and their card should be returned.
2. Verify that after the user has ended their session with the ATM machine, if the machine does not return their card, the user should have the option to retrieve their card(e.g.contact support).