**ATM Requirements**

**Application Overview:**

You have a bank account in one of the famous banks (call it as ABC Bank). Your bank has an ATM Machine that is close your house. You are required to analyze the details listed below and identify relevant test conditions to test the ATM machine. After completing the test conditions, you are required to write detailed test cases through which you can test different feature functionalities of the application.

**ATM Features / Requirements:**

1. ATM is a standard machine and does not support touch screen functionality.

2. ATM supports cards issued by ABC Bank. Non-ABC Bank cards are not supported.

3. ATM supports only fast cash, i.e. it only disburses cash in the denomination of 20, 30, 50, 100, 150 and 200. User cannot use this machine to withdraw money in any other denomination.

4. ATM machine will retain the card till your transaction is complete or until you decide to cancel your transaction. Card will be ejected after the transaction completion or cancellation.

5. Clicking on Cancel button at any point of time should show a message that says, “Do you wish to cancel the transaction? Press Cancel to cancel the transaction or Enter to continue with the transaction”. If a user clicks Cancel in response to the message, the transaction should be cancelled all entries reversed, card ejected and the home screen shown. If the user clicks Enter in response to the message, the ATM machine should continue with the transaction.

6. After inserting the card, ATM machine will read the card. While the card is being validated, the screen will show a message that reads, “Your Card is being validated, please wait”. If the card is valid, a message is shown that says, “Please Enter Your Pin Number”. If the card is invalid (wrongly inserted, non ABC Bank card, expired or mutilated), the machine will show a message that says, “Sorry, we cannot process this card, please enter a valid card” and the card is ejected.

7. Pin number is a four digit number and the user can enter the pin number only by clicking on the key board (ATM key board key consists of numbers 0 to 9, and Enter and a Cancel buttons).

8. Pin number entered should always be shown as an “Asterisk”. After the user enters the 4th digit, the ATM Machine should show a message that reads, “Press Enter”. At this point of time, the keys between 0 to 9 should be disabled. Only Enter and Cancel should be enabled.

9. After the user has clicked on Enter button, the screen should display a message that reads, “Checking your Pin number”. If the Pin number is valid, the machine displays the menu screen. If the Pin is invalid, a message is shown that says, “The Pin entered is invalid, please re-enter”, Pin entered earlier is cleared and user enabled to re-enter the pin. If the user enters and invalid Pin two times in a row, the machine shows an error that reads, “Maximum number of invalid Pin entries in a row is three. Your card will be captured if a wrong pin is entered the third time. Please re-enter a valid Pin”. Pin entered earlier is cleared and user enabled to re-enter the pin. If the user enters an invalid pin third time in a row, the card is captured by the ATM Machine and an error message is shown that says, “Your card has been captured as a security mechanism, please contact your bank for next steps”. After five seconds, the user is shown the home screen

10. Menu screen should show the options listed below. At this point, except for the Cancel button, all other button on the key board should be disabled.

a. Cash

b. Balance

c. Print Mini Statement

d. Cash With Receipt

e. Printed Balance

f. Change Pin Number

11. User should be able to press the buttons corresponding to the six menu options shown on the menu screen.

12. When user clicks on Cash button, the screen should prompt the user to select the amount to be withdrawn (i.e. either 20, 30, 50, 100, 150 or 200 only). User can click any one of the corresponding buttons to withdraw cash. When the user clicks on a particular denomination, the screen should show a message that reads, “Please Wait”. While the “Please Wait” message is shown, the ATM machine will communicate back with the bank to validate user transaction as shown below:

a. Availability of balance in the account – If the available balance is less than the amount selected, a message should be shown that reads, “You do not have sufficient balance in your account to process this transaction, please re-enter the amount”. Machine should show the denomination screen

b. Number of transactions - Maximum number of valid transaction per day (between 12.00 am to 11.59.59 pm) are four. ATM machine should show a message that reads, “The transaction cannot be processed as you have crossed the maximum number of transactions limit per day. Please try later”. The card should be ejected

If the transaction is valid, the machine should eject the card and show a message that reads, “Remove Your Card”. At this point, if the card is not removed after the lapse of 20 seconds, the ATM machine should capture the card and show a message that reads, “Your card has been captured as a safety mechanism. Please contact your bank for next steps”, the transaction should be cancelled, the amount intended to be withdrawn should be added back to the account and the user shown the home screen. Alternatively, if the card has been removed, the screen shows a message that reads, “Please Wait, Counting Cash”. Once the cash counting is complete, the screen should show a message that reads, “Please Remove Cash”, cash in the correct denomination should be available in the cash slot. If the user does not remove the cash within 20 seconds, the ATM machine should take the cash back and show a message that reads, “The cash has been taken back as a safety mechanism. Your transaction has been cancelled and the withdrawal amount has been added back to your account”. User should then be shown the home screen.

13. On the menu screen if the user selects the option, “Balance”, the machine shows a message that reads, “Please wait”. Once the details are available, the screen should show the details in the form of a message that reads, “Your Current Balance Is <xxxx.xx>, Do You Require Another Service, No / Yes”. If the user clicks on Yes, the menu screen should be shown. If the user clicks on No, the machine should eject the card and show a message that reads, “Please Remove Your Card”. After the card has been removed, the home screen is shown

14. On the menu screen if the user selects the option, “Mini Statement”, the machine shows a message for two seconds that reads, “Please Wait, Printing Mini Statement”. The machine should print a mini statement and show a message that reads, “Please Remove Mini Statement”. Mini statement should show the transaction id, date of transaction, ATM bank branch name and code and list of the last 5 transaction (transaction id, date and amount). After the mini statement has been removed from the slot, the screen will show a message that reads, “Do You Require Another Service, No / Yes”. If the user clicks on Yes, the menu screen should be shown. If the user clicks on No, the machine should eject the card and show a message that reads, “Please Remove Your Card”. After the card has been removed, the home screen is shown”. If the mini statement is not removed within 5 seconds, the machine should eject the card, prompt the user to remove the card and show the home screen

15. On the menu screen if the user selects the option, “Cash with Receipt”, the screen will show the denominations in which the user can withdraw cash, do the processing as explained earlier and upon successful disbursement of the cash, print a receipt for the amount withdrawn. The receipt will contain details of the bank branch name and code, transaction id, date of transaction and the amount withdrawn. After the print out, the card is ejected and the home screen is shown (as described during cash withdrawal)

16. On the menu screen if the user selects the option, “Printed Balance”, the screen will show a message that reads, “Please Wait, Printing Receipt” after 2 seconds the receipt is printed and the user shown a message that reads, “Please Remove Balance Slip”. After the slip has been removed, the screen shows a message that reads, “Do You Require Another Service? No / Yes”. Depending on the option selected, the system will show the appropriate screen as described earlier

17. On the menu screen if the user selects the option, “Change Pin Number”, the screen will show a message that reads, “Change Pin Security Code, Enter New Pin Code”, the on screen button should be disabled, key board key enabled and user allowed to enter a new pin code. If the pin code is less than 4 digits, the screen shows a message that says, “Your new Pin Code should be 4 digits long, please re-enter”. If the user enters a 4 digit code, the machine shows a message that reads, “You Pin Has Been Changed”. After 2 seconds, a message is shown that reads, ““Do You Require Another Service? No / Yes”. Depending on the option selected, the system will show the appropriate screen as described earlier. User will not be able to enter more than 4 digits when changing the Pin

Link for ATM

<http://www.moneymatterstome.co.uk/Interactive-Workshops/ATM.htm>