Group #1 RR – Texas State Bank ATM application

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Acceptance Testing

# Withdraw Funds:

|  |  |  |
| --- | --- | --- |
| Name of Use Case: | Withdraw Funds | |
| Super Use Case: | None | |
| Actor(s): | User | |
| Brief Description: | The user swipes their card, enters their PIN, selects to withdraw, selects an account, enters an amount, collects their cash, and is logged out. | |
| Pre-Conditions: | The Welcome Screen is displayed, and the card reader is in a ready state. | |
| Post-Conditions: | The Welcome Screen is displayed, and the card reader is in a ready state. | |
| Flow of Events / Results: | 1. The user approaches the ATM which is displaying a Welcome Screen. The screen instructs the user to swipe their card. 2. The user swipes their card. 3. The ATM prompts the user for their PIN. 4. The user enters their PIN for the card swiped. 5. The Account Overview Page is displayed for the user to view. 6. The user selects Withdraw from the screen. 7. The ATM prompts the user to select an account to withdraw from. 8. The user selects an account. 9. The ATM prompts the user to enter an amount in increments of $20. 10. The user enters the amount of $20 and clicks OK. 11. The ATM prompts the user to take their cash. 12. The ATM displays the account and the new balance. 13. The ATM logs out the user. |  |
| Alternate Flow and Exceptions / Results: | 1a. The database is unavailable.  1b. The network is unavailable.  The ATM shows an offline message. |  |
| Alternate Flow and Exceptions / Results: | 2a. The card swipe cannot be read.  a. An unsuccessful read message is shown and the ATM returns to the Welcome Screen.  2b. The card swiped is read but the information is invalid for this system.  b. An invalid card message is shown and the ATM returns to the Welcome Screen.  2c. The card reader encounters a hardware error.  2d. Card swipe is successful, but system loses connection.  d. The ATM shows an offline message. |  |
| Alternate Flow and Exceptions / Results: | 4a. The user enters an invalid PIN.  a. An invalid PIN message is shown on the ATM and the user is prompted to enter PIN again.  4b. The user enters an invalid PIN three times.  b. An invalid Login message is shown on the ATM alerting the user that their account is locked out.  4c. The user enters a PIN shorter than 4 digits.  c. An invalid PIN message is shown on the ATM and the user is prompted to enter PIN again.  4d. The user enters a PIN longer than 4 digits.  d. An invalid PIN message is shown on the ATM and the user is prompted to enter PIN again.  4e. The PIN entered is valid but the system loses connection.  e. An ATM unavailable message is shown and the ATM goes into an offline state until it is able to reconnect. |  |
| Alternate Flow and Exceptions / Results: | 8a. The user selects an account with a $0 balance.  8b. The user selects an account with a balance less than $20. |  |
| Alternate Flow and Exceptions / Results: | 10a. The user enters a value that is not an increment of $20.  10b. The user enters a value greater than the balance of the account. |  |
| Alternate Flow and Exceptions / Results: | 11a. An error has occurred in the withdraw process. |  |
| Alternate Flow and Exceptions / Results: | If the system is left idle for 15 seconds, no matter what the user is doing, the system will log out the user. |  |
| Priority: | High | |
| Assumptions: | The database and network are connected and in a read state. | |

# Transfer Funds:

|  |  |  |
| --- | --- | --- |
| Name of Use Case: | Transfer Funds | |
| Super Use Case: | None | |
| Actor(s): | User | |
| Brief Description: | The user swipes their card, enters their PIN, selects Transfer, selects a ‘from’ account, then selects a ‘to’ account, enters an amount, and is logged out. | |
| Pre-Conditions: | The Welcome Screen is displayed, and the card reader is in a ready state. | |
| Post-Conditions: | The Welcome Screen is displayed, and the card reader is in a ready state. | |
| Flow of Events / Results: | 1. The user approaches the ATM which is displaying a Welcome Screen. The screen instructs the user to swipe their card. 2. The user swipes their card. 3. The ATM prompts the user for their PIN. 4. The user enters their PIN for the card swiped. 5. The Account Overview Page is displayed for the user to view. 6. The user selects Transfer from the screen. 7. The ATM prompts the user to select a ‘From’ account. 8. The user selects a ‘From’ account. 9. The ATM prompts the user to select a ‘To’ account. 10. The user selects a ‘To’ account. 11. The ATM prompts the user to enter an amount. 12. The user enters the amount of $15 and clicks OK. 13. The ATM displays the two accounts and their new balances. 14. The ATM logs out the user. |  |
| Alternate Flow and Exceptions / Results: | 1a. The database is unavailable.  1b. The network is unavailable.  The ATM shows an offline message. |  |
| Alternate Flow and Exceptions / Results: | 2a. The card swipe cannot be read.  a. An unsuccessful read message is shown and the ATM returns to the Welcome Screen.  2b. The card swiped is read but the information is invalid for this system.  b. An invalid card message is shown and the ATM returns to the Welcome Screen.  2c. The card reader encounters a hardware error.  2d. Card swipe is successful, but system loses connection.  d. The ATM shows an offline message. |  |
| Alternate Flow and Exceptions / Results: | 4a. The user enters an invalid PIN.  a. An invalid PIN message is shown on the ATM and the user is prompted to enter PIN again.  4b. The user enters an invalid PIN three times.  b. An invalid Login message is shown on the ATM alerting the user that their account is locked out.  4c. The user enters a PIN shorter than 4 digits.  c. An invalid PIN message is shown on the ATM and the user is prompted to enter PIN again.  4d. The user enters a PIN longer than 4 digits.  d. An invalid PIN message is shown on the ATM and the user is prompted to enter PIN again.  4e. The PIN entered is valid but the system loses connection.  e. An ATM unavailable message is shown and the ATM goes into an offline state until it is able to reconnect. |  |
| Alternate Flow and Exceptions / Results: | 8a. The user selects an account with a $0 balance. |  |
| Alternate Flow and Exceptions / Results: | 11a. The user enters an amount greater than the ‘From’ account balance. |  |
| Alternate Flow and Exceptions / Results: | 13a. An error has occurred in the withdraw process. |  |
| Alternate Flow and Exceptions / Results: | If the system is left idle for 15 seconds, no matter what the user is doing, the system will log out the user. |  |
| Priority: | High | |
| Assumptions: | The database and network are connected and in a read state. | |

SECTIONAL BREAK-DOWN:

# Application Start and Logging In:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| When starting the application the Welcome screen appears. | 1. Run the application as a Java Application |  |
| When starting the application, if the database is unavailable an error is shown. | 1. Run the application as a Java Application |  |
| When starting the application, if the network is unavailable an error is shown. | 1. Run the application as a Java Application |  |

## Logging in – Swipe Card:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| If the card swipe cannot be read the user is prompted to swipe their card again. | 1. User swipes their card. |  |
| If the card swipe is read but the information is invalid (not a valid card) an error is displayed that the ATM does not accept that form of card. | 1. User swipes their card. |  |
| If the card reader encounters an error in the hardware an error is displayed that the card reader is unavailable. | 1. User swipes their card. |  |
| If the card swipe is read and the user information is not in the database an error is shown that we are unable to look up the user. | 1. User swipes their card. |  |
| When the user swipes their card they are greeted by name and are prompted for their PIN. | 1. User swipes their card. |  |

## Logging in – Enter PIN:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The user enters an invalid PIN for the swiped card and is given an error to enter the PIN again. | 1. User swipes their card. 2. User enters a PIN. |  |
| The user incorrectly enters a PIN three times in a row and is given an error that their account is locked. | 1. User swipes their card. 2. User enters a PIN. |  |
| The user attempts to enter a PIN shorter than 4 digits and is given an error that the PIN is invalid. | 1. User swipes their card. 2. User enters a PIN. |  |
| The user attempts to enter a PIN longer than 4 digits and is given an error that the PIN is invalid. | 1. User swipes their card. 2. User enters a PIN. |  |
| The user enters a valid PIN but the ATM loses the connection to the database and is given an error that we cannot connect to the database. | 1. User swipes their card. 2. User enters a PIN. |  |
| The user enters a valid PIN and is taken to the account overview page. | 1. User swipes their card. 2. User enters a PIN. |  |

# Successful Login:

## Account Overview Page:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| User is valid but does not have any associated accounts. | 1. User swipes their card. 2. User enters a PIN. |  |
| User is valid but has more than 4 accounts available. | 1. User swipes their card. 2. User enters a PIN. |  |
| Account information is shown for up to 4 accounts (in alphabetical order) with the total balance of each account. | 1. User swipes their card. 2. User enters a PIN. |  |

## Withdraw Funds – Button Pressed:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| Withdraw is selected from the screen and the user is prompted to select an account. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. |  |
| Withdraw is selected from the screen and the user selects an account with a $0 balance. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. |  |
| Withdraw is selected from the screen and the user selects an account with less than $20 available. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. |  |
| Withdraw is selected from the screen and the user selects an account with available funds. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. |  |
| Withdraw is selected from the screen and the user selects an account, then selects a secondary account with available funds. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. |  |

## Withdraw Funds – Enter an Amount and Withdraw:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The user is prompted to enter a value in increments of $20. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. 4. User enters an amount and clicks ok. |  |
| The user enters an amount of $15 and an error is displayed. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. 4. User enters an amount and clicks ok. |  |
| The user enters an amount greater than the amount available in the account and an insufficient funds error is displayed. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. 4. User enters an amount and clicks ok. |  |
| The user enters an amount equal to the amount available in the account. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. 4. User enters an amount and clicks ok. |  |
| The user enters a value of $20. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. 4. User enters an amount and clicks ok. |  |
| The user is prompted to take their cash. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. 4. User enters an amount and clicks ok. |  |
| The system displays the account and new balance. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. 4. User enters an amount and clicks ok. |  |

## Withdraw Funds – Logout:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The ATM logs the user out. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Withdraw. 4. User enters an amount and clicks ok. |  |

## Transfer Funds – Button Pressed:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| Transfer is selected from the screen and the user is prompted to select a FROM account. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Transfer. |  |
| The user selects an account with a balance of $0 as the FROM account. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Transfer. |  |
| The user selects an account, then tries to select the FROM account again. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Transfer. |  |

## Transfer Funds – Select TO Account:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The user is prompted to select a TO account. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Transfer. 4. The user selects a FROM account. 5. The user selects a TO account. |  |
| The user selects an account. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Transfer. 4. The user selects a FROM account. 5. The user selects a TO account. |  |

## Transfer Funds – Enter an Amount and Transfer:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The user is able to enter an amount to transfer. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Transfer. 4. The user selects a FROM account. 5. The user selects a TO account. 6. User enters an amount and clicks ok. |  |
| The user enters an amount greater than the balance in the FROM account. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Transfer. 4. The user selects a FROM account. 5. The user selects a TO account. 6. User enters an amount and clicks ok. |  |
| The user enters an amount equal to the balance in the FROM account | 1. User swipes their card. 2. User enters a PIN. 3. User selects Transfer. 4. The user selects a FROM account. 5. The user selects a TO account. 6. User enters an amount and clicks ok. |  |
| The user enters an amount that is less than the balance in the FROM account. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Transfer. 4. The user selects a FROM account. 5. The user selects a TO account. 6. User enters an amount and clicks ok. |  |
| The system displays a success message and shows the accounts and the new balances. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Transfer. 4. The user selects a FROM account. 5. The user selects a TO account. 6. User enters an amount and clicks ok. |  |

## Transfer Funds – Logout:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The user is prompted to take their cash and the ATM logs the user out. | 1. User swipes their card. 2. User enters a PIN. 3. User selects Transfer. 4. The user selects a FROM account. 5. The user selects a TO account. 6. User enters an amount and clicks ok. |  |

# Other Functionality:

## Picture Taken:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The camera is unavailable or offline. | 1. User swipes their card. 2. User enters a PIN. |  |
| The user has covered the camera to not capture an image. | 1. User swipes their card. 2. User enters a PIN. |  |
| The camera is available and an image is taken. | 1. User swipes their card. 2. User enters a PIN. |  |
| The successful image is displayed on the account overview page. | 1. User swipes their card. 2. User enters a PIN. |  |

## Time-out:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The user has not performed an action in 15 seconds, the user is then logged out of the system. | 1. User swipes their card. 2. User enters a PIN. |  |
| The user has not performed an action in 10 seconds, then performs an account. | 1. User swipes their card. 2. User enters a PIN. |  |

## Multiple Logins – Different Accounts:

(Both users will do the steps concurrently)

### User 1:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The user swipes their valid card. | 1. User swipes card. |  |
| The user enters a valid PIN. | 1. User swipes card. 2. User enters a PIN. |  |
| The user selects Withdraw. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. |  |
| The user selects an account with a balance greater than $20. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. |  |
| The user enters an amount of $20. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. 5. User enters $20 and clicks OK. |  |
| The user is prompted to take their cash. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. 5. User enters $20 and clicks OK. |  |
| The user is logged out of the system. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. 5. User enters $20 and clicks OK. |  |

### User 2:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The user swipes their valid card. | 1. User swipes card. |  |
| The user enters a valid PIN. | 1. User swipes card. 2. User enters a PIN.. |  |
| The user selects Transfer. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. |  |
| The user selects a FROM account with a balance greater than $20. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. 4. User selects a FROM account. |  |
| The user is prompted to select a TO account. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. 4. User selects a FROM account. |  |
| The user selects a TO account. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. 4. User selects a FROM account. 5. User selects a TO account. |  |
| The user enters an amount to transfer of $15. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. 4. User selects a FROM account. 5. User selects a TO account. 6. User enters $15 and clicks OK. |  |
| A success message of the transfer is displayed with the new account balances. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. 4. User selects a FROM account. 5. User selects a TO account. 6. User enters $15 and clicks OK. |  |
| The user is logged out of the system. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. 4. User selects a FROM account. 5. User selects a TO account. 6. User enters $15 and clicks OK. |  |

## Multiple Logins – Same Account, Same Actions:

(Both users will do the steps concurrently)

### User 1:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The user swipes their card (same card as user two) | 1. User swipes card. |  |
| The user enters a valid PIN. | 1. User swipes card. 2. User enters a PIN. |  |
| The user selects Withdraw. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. |  |
| The user selects an account with a balance greater than $20. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. |  |
| The user enters an amount of $20. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. 5. User enters $20 and clicks OK. |  |
| The user is prompted to take their cash. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. 5. User enters $20 and clicks OK. |  |
| The user is logged out of the system. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. 5. User enters $20 and clicks OK. |  |

### User 2:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The user swipes their card (same card as user one) | 1. User swipes card. |  |
| The user enters a valid PIN. | 1. User swipes card. 2. User enters a PIN. |  |
| The user selects Withdraw. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. |  |
| The user selects the same account user one is withdrawing from. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. |  |
| The user enters an amount of $20. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. 5. User enters $20 and clicks OK. |  |
| The user is prompted to take their cash. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. 5. User enters $20 and clicks OK. |  |
| The user is logged out of the system. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. 5. User enters $20 and clicks OK. |  |

## Multiple Logins – Same Account, Different Actions:

(Both users will do the steps concurrently)

### User 1:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The user swipes their card (same card as user two) | 1. User swipes card. |  |
| The user enters a valid PIN. | 1. User swipes card. 2. User enters a PIN. |  |
| The user selects Withdraw. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. |  |
| The user selects an account with a balance greater than $20. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. |  |
| The user enters an amount of $20. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. 5. User enters $20 and clicks OK. |  |
| The user is prompted to take their cash. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. 5. User enters $20 and clicks OK. |  |
| The user is logged out of the system. | 1. User swipes card. 2. User enters a PIN. 3. User selects Withdraw. 4. User selects an account. 5. User enters $20 and clicks OK. |  |

### User 2:

|  |  |  |
| --- | --- | --- |
| Description | Test Steps | Results |
| The user swipes their card (same card as user one) | 1. User swipes card. |  |
| The user enters a valid PIN. | 1. User swipes card. 2. User enters a PIN. |  |
| The user selects Transfer. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. |  |
| The user selects the same account user one is withdrawing from as the FROM account. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. 4. User selects a FROM account. |  |
| The user selects a TO account. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. 4. User selects a FROM account. 5. User selects a TO account. |  |
| The user enters an amount to transfer of $15. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. 4. User selects a FROM account. 5. User selects a TO account. 6. User enters an amount of $15. |  |
| A success message of the transfer is displayed with the new account balances. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. 4. User selects a FROM account. 5. User selects a TO account. 6. User enters an amount of $15.   . |  |
| The user is logged out of the system. | 1. User swipes card. 2. User enters a PIN. 3. User selects Transfer. 4. User selects a FROM account. 5. User selects a TO account. 6. User enters an amount of $15. |  |