**Banking System Problem Descriptions:**

The bank has several automated teller machines (ATMs), which are geographically distributed and connected via a wide area network to a central server. Each, ATM machine has a card reader, a cash dispenser, a keyboard/display and a receipt printer. By using the ATM machine, a customer can withdraw cash from either a checking or savings accounts; query the balance of an account; or transfer funds from one account to another. A transaction is initiated when a customer inserts an ATM card into the card reader. Encoded on the magnetic strip on the back of the ATM card is the card number, and start and expiration dates. Assuming the card is recognized, the system validates the ATM card to determine that the expiration date has not passed; that the user-entered PIN matches the PIN maintained by the system; and that the card is not lost or stolen. The customer is allowed three attempts to enter a correct PIN. The card is confiscated if the third attempt fails. Cards that have been reported lost or stolen are also confiscated.

If the PIN is validated satisfactorily, the customer is prompted to choose a withdrawal, query, or transfer transaction. Before a withdrawal transaction can be approved, the system determines that sufficient funds exist in the chosen account; the maximum daily will not be exceeded; and that there are sufficient funds at the local cash dispenser. If the transaction is approved, the requested amount of cash is dispended, a receipt is printed containing information about the transaction, and the card is ejected. A customer may cancel a transaction at any time; the transaction is terminated and the card is ejected. Customer records, account records, and debit card records are all maintained at the server.

**Functional Requirements**

***FR1: Perform Transaction, Query, withdrawal, transfer***

*FR1.1: Perform Transaction, Query*

First, the customer must have an ATM card. The customer inserts their ATM card into the card reader and he enters the correct PIN. If the PIN is entered incorrectly three times or the card is lost or stolen then the ConfiscateCard use case is carried out. After the successful validation of the PIN / ATM card, the user is given a selection of performing a withdrawal, query, or transfer. Once the transaction has completed, a receipt is printed, then the card is ejected. Before, the ejection of the card from the reader the System asks the user, Does he wants to perform a new transaction and if the customer selects YES then, System again prompt three options to the customer for selection.

*FR1.2: Perform Withdrawal*

Sufficient funds must be available in the account that is to have the money debited, the amount to be removed must not exceed the remaining daily limit, and there must be sufficient funds in the local cash dispenser. The customer specifies that amount of money to withdraw along with the account to withdraw it from. The transaction is approved and the requested amount of cash is dispensed, and then control returns to the PerformTransaction use case.

*FR1.3: Perform Transfer*

Sufficient funds must be available in the account that is to have the money debited; the amount to be removed must not exceed the remaining daily limit. The customer specifies that amount of money to transfer , the account to withdraw it from. Before a transfer transaction can be approved, the system determines that the customer has at least two accounts, that there are sufficient funds in the account to be debited. For approved transactions a receipt is printed. If no receipt is printed then an error message is printed. The card is ejected. The transaction is then approved, and then control returns to the PerformTransaction use case.

***FR2: Approval Failed***

The system informs the customer that the transaction was not approved. The system cancels any other pending transactions. The customer clicks on more information button. The system shows a message: Reason for this kind of failure is due to the insufficient fund in the account, daily limit exceeded, or the entered amount is greater than the available amount in the account.

***FR3: Cancel Transaction***

If the customer needn’t to continue further then he has an option to cancel the transaction at any point of the time.

***FR4: Confiscate Card***

If the card’s magnetic strip is broken/not detectable, three times PIN entered is wrong or the card is broken , then the card is confiscated. The system informs the customer that the card is confiscated.

***FR5: Help Facility***

If the customer is stuck somewhere in the transaction process then he has an option to use help facility provided by the system. The customer chooses help facility option. ATM screen displays a message asking the type of help the customer wants. Depending on the selection, the system helps the customer in proceeding with the transaction .

