Automatic Teller Machine(ATM)

Title
• Cash Withdrawal using an Automatic Teller Machine(ATM)

Description
• A customer inserts his card into an ATM, His card is validated and He's prompted for a PIN.Customers PIN is validated.Customer is prompted to select a bank account and then asked to select an amount to withdraw.Customer enters valid amount to withdraw.The system begins a transaction,Cash is dispensed, transaction is ended. Card ejected and receipt printed with transaction details.

Triggers
• Customer inserts card into ATM (that is ready)

Actors
• Customer
• ATM
• Bank [Server]

Preconditions
• ATM is powered
• ATM indicates ready(green light in card reader)
• Customer with a card
• Network available between ATM and Bank's server

Goal
• Disburse requested cash amount to Customer in a secured manner
• Print receipt reflecting amount cashed out by customer

Extensions
• Extensions
  ◦ card is invalid - reject card and notifies customer - abort
  ◦ card is stolen   - swallows card and notifies bank - abort
  ◦ PIN is invalid - prompt again and swallows card and three wrong attempts - abort
  ◦ Amount is more than amount available in bank account - inform customer
  ◦ amount not available in the machine - inform customer and indicate the limit
• Failure messages

Steps of execution
- Customer inserts an ATM card into the card reader of ATM
- Card is validated by the system
  - card is invalid - reject card and notifies customer - abort
  - card is stolen   - swallows card and notifies bank - abort
  - card is valid - execution continues
- PIN is requested from Customer
- Customer provides PIN
- PIN is validated by the system
  - PIN is invalid - prompt again and swallows card and three wrong attempts - abort
  - PIN is valid - continue execution
- Customer is asked to select a bank account
- Customer selects a bank account
- Customer is prompted for the amount to withdraw from the selected bank account
- Customer enters amount to withdraw either in $10 or $20
- Amount is validated by the Bank
  - Amount is more than amount available in bank account - inform customer
  - amount available in account
    ‣ amount not available in the machine - inform customer and indicate the limit
    ‣ amount available in machine - continue execution
- System begins a transaction
- Amount is disbursed
- Transaction is closed
- Customer is prompted if he wants another transaction
  - Customer says yes, and is taken back to -Customer is prompted for the amount to withdraw
  - Customer says no, card is ejected
- Receipt is printed and emitted
- Machine is ready to receive another customer

Constraints
 Delays of more than 30 seconds in making decisions will abort execution process