Teller

Use Case ID: 1
Use Case Name: System Login
Relevant Requirements: SRS Document
Primary Actor: Any user
Pre-conditions: User tries to log into the system.
Post-conditions: User's access is according to credential level
Basic Flow or Main Scenario:
User logs in with employee teller credential:
1. User logs into employee teller account
2. System grants user employee teller access

User logs in with supervisor credential
1. User logs into supervisor account
2. System grants supervisor-level access

Extensions or Alternate Flows: None.
Exceptions: User with invalid credentials
User logs in with incorrect username:
1. User logs in with invalid username
2. System denies access with "Invalid Username" message
3. Prompts retry

User logs in with incorrect password:
1. User logs in with valid username, but incorrect PIN
2. System denies access with "Incorrect Password" message
3. Prompts retry

Related Use Cases: 2,3,4,5,6

Use Case ID: 2

Use Case Name: Teller Deposit

Relevant Requirements: SRS Document

Primary Actor: Teller

Pre-conditions: Teller logged into customer's account with correct account number and passcode

Post-conditions: Teller deposits into customer's account

Basic Flow or Main Scenario:

Teller deposits with a customer's given cash amount

1. User tries to deposit given cash amount
2. Cash gets validated
3. Cash amount gets deposited into account
4. A balance for the account will be shown

Extensions or Alternate Flows: None.

Exceptions: N/A

Related Use Cases: 1

Teller Withdraw

Use Case ID: 3

Use Case Name: Teller Withdraw

Relevant Requirements: SRS Document

Primary Actor: Teller

Pre-conditions: Teller logged into customer's account with correct account number and passcode

Post-conditions: Teller withdraws from customer's account

Basic Flow or Main Scenario:

Teller tries to withdraw from a non-overdraft customer's account

1. Teller tries to withdraw money from customer's account
2. Teller verifies the correct amount with customer
3. Customer's desired withdrawn amount will be dispensed
4. A balance for the account will be shown

Extensions or Alternate Flows: None.

Exceptions: Customer tries to over withdraw money

Teller withdrawal overdrafts the account

1. Teller tries to withdraw money more than what the customer's account has
2. Teller verifies the correct amount with customer
3. Customer's desired withdrawn amount will be dispensed
4. An overdraft balance will be shown

Teller tries to withdraw from an overdraft account

1. Teller tries to withdraw an overdrafted customer's account
2. Teller verifies the correct amount with customer
3. Teller denies the withdrawal
4. Teller prompts customer "$Value cannot be withdrawn from an overdrafted account"

Related Use Cases: 1

Use Case ID: 4

Use Case Name: Teller Transfer

Relevant Requirements: SRS Document

Primary Actor: Teller

Pre-conditions: Teller logged into customer's account with correct account number and passcode

Post-conditions: Teller transfer from customer's account

Basic Flow or Main Scenario:

Teller transfer desired amount from checking to savings or vice versa

1. Teller tries to transfer money within customer's accounts
2. Teller verifies the correct amount
3. Customer's desired amount will then be transferred to the correct account
4. A balance for the account will be shown

Extensions or Alternate Flows: None.

Exceptions: Customer tries to over transfer

Teller transfer overdrafts the account

1. Teller tries to transfer money more than what the customer's account has
2. Teller verifies the correct amount
3. Customer's desired transfer amount will be transferred
4. An overdraft balance will be shown

Teller tries to transfer from an overdraft account

1. Teller tries to transfer an overdrafted customer's account
2. Teller verifies the correct amount
3. Teller denies the transfer
4. System prompts customer "$Value cannot be transfer from an overdrafted account"

Related Use Cases: 1

Use Case ID: 5

Use Case Name: Account Balance

Relevant Requirements: SRS Document

Primary Actor: Customer

Pre-conditions: Customer is logged into account with correct account and passcode

Post-conditions: Customer's account balance is displayed

Basic Flow or Main Scenario:

Displaying user's account balance

1. User requests Teller to display balance
2. System permits the request and Teller displays user's account balance

Extensions or Alternate Flows: None.

Exceptions: N/A

Related Use Cases: 1

Use Case ID: 6

Use Case Name: Supervisor Access

Relevant Requirements: SRS Document

Primary Actor: Supervisor

Pre-conditions: Supervisor logged into validated user account

Post-conditions: Supervisor is granted access with supervisor-level permissions

Basic Flow or Main Scenario:

Supervisor has full control of server and teller control

1. Supervisor initiates or shut off server or teller
2. System initiates or shuts off accordingly

Supervisor creates new employee in system

1. Supervisor creates new employee user account and password
2. System logs new employee information

Supervisor deletes an existing employee in system

1. Supervisor deletes an existing employee account and password
2. System deletes an existing employee information

Extensions or Alternate Flows: Supervisor changes Employee password.

Exceptions: Backup File corrupted, Employee does not exist

Related Use Cases: 1

ATM

Use Case ID: 1
Use Case Name: System Login
Relevant Requirements: SRS Document
Primary Actor: Customer
Pre-conditions: User inserts card at Insert Screen and awaits server connection.
Post-conditions: User's access is granted if card and PIN matches, shows Option Screen
Basic Flow or Main Scenario:
User logs in with correct card and password:
1. User enters correct PIN
2. System grants user access to account
Extensions or Alternate Flows:
Exceptions: User with invalid credentials, Server Offline
User logs in with incorrect card:
1. User logs in with invalid card
2. System denies access with "Invalid Card" message
3. Prompts retry
User logs in with incorrect PIN:
1. User logs in with valid card, but incorrect PIN
2. System denies access with "Incorrect Password" message
3. Prompts retry
Related Use Cases: 2,3,4,5

<p style="text-align:center;">ATM Deposit</p>

Use Case ID: 2

Use Case Name: ATM Deposit

Relevant Requirements: SRS Document

Primary Actor: Customer

Pre-conditions: User logged into account with correct card and PIN, Option Screen

Post-conditions: User deposits into account

Basic Flow or Main Scenario:

User deposits with a valid check

1. User tries to deposit a check
2. Check gets validated
3. Check amount gets deposited into account
4. A balance for the account will be shown

User deposits with given cash amount

1. User tries to deposit given cash amount
2. Cash gets validated
3. Cash amount gets deposited into account
4. A balance for the account will be shown

Extensions or Alternate Flows: If two accounts, System will ask Checking or Savings

Exceptions: User deposits invalid, Deposit too large

User tries to deposit invalid checks

1. User tries to deposit a check
2. Check gets validated
3. Counterfeit checks will be given back
4. System notifies user the check is a counterfeit or invalid

User tries to deposit too large amount

1. Enters amount
2. Amount > 5k
3. System notifies user the amount is too high, see Teller

Related Use Cases: 1

<p style="text-align:center;">ATM Withdraw</p>

Use Case ID: 3

Use Case Name: ATM Withdraw

Relevant Requirements: SRS Document

Pre-conditions: User logged into account with correct card and PIN. One account with Positive status

Post-conditions: User withdraws from account

Basic Flow or Main Scenario:

User tries to withdraw from a non-overdraft account

1. User tries to withdraw money
2. ATM verifies the correct amount
3. User's desired withdrawn amount will be dispensed
4. A balance for the account will be shown

Extensions or Alternate Flows: None.

Exceptions: User tries to withdraw money

User withdrawal overdrafts the account

1. User tries to withdraw money more than what the account has
2. ATM verifies the correct amount
3. User's desired withdrawn amount will be dispensed
4. An overdraft balance will be shown

Related Use Cases: 1

ATM Transfer

Use Case ID: 4

Use Case Name: ATM Transfer

Relevant Requirements: SRS Document

Primary Actor: Customer

Pre-conditions: User logged into account with correct card and PIN, with two accounts with one in Positive status

Post-conditions: User transfers within checking or savings

User transfer desired amount from checking to savings or vice versa

1. User tries to transfer money within accounts from an account with a positive amount
2. ATM verifies the correct amount (less than 5k)
3. Desired amount will then be transferred to the correct account
4. A balance for the withdrawn account will be shown

Extensions or Alternate Flows: User chooses Checking or Savings if both are in Positive status

Exceptions: User tries to over transfer

User transfer overdrafts the account

1. User tries to transfer money more than what the account has
2. ATM verifies the correct amount
3. User's desired transfer amount will be transferred
4. An overdraft balance will be shown

Related Use Cases: 1

Account Balance

Use Case ID: 5

Use Case Name: View Account Balance

Relevant Requirements: SRS Document

Primary Actor: Customer

Pre-conditions: User logged into account with correct card and PIN

Post-conditions: User's account balance is displayed

Basic Flow or Main Scenario:

Displaying user's account balance

1. User requests ATM to display balance
2. System permits the request and displays user's account balance

Extensions or Alternate Flows: None.

Exceptions: N/A

Related Use Cases: 1

Login

Use Case ID: 6

Use Case Name: Logout

Relevant Requirements: SRS Document

Primary Actor: Customer

Pre-conditions: ATM User is logged in and attempts to logout.

Post-conditions: ATM User is logged out.

Server online

1. User is logged in.
2. User is done with transactions and attempts to logout.
3. Server approves ATM User logout request.
4. ATM user is logged out.

Extensions or Alternate Flows: None.

Exceptions: None

Related Use Cases: 1

Dispense Cash

Use Case ID: 7

Use Case Name: Dispense Cash

Relevant Requirements: SRS Document

Primary Actor: Customer

Pre-conditions: ATM User's withdrawal request has been approved by server.

Post-conditions: ATM has dispensed withdrawal amount for user.

Basic Flow or Main Scenario:

Server online

1. User requests to withdraw some money.
2. Server approves request.
3. ATM dispenses cash for ATM user.

Extensions or Alternate Flows: None.

Exceptions: None

Related Use Cases: 1

Server

Use Case ID: SUC_001
Use Case Name: Server startup
Relevant Requirements: Server should be able to load information from save files.
Primary Actor: Initiate program Server
Pre-conditions: Server program terminated.
Post-conditions: Server data loaded, ready to go Online
Basic Flow or Main Scenario:
- Server program started
- Server locates files and loads data, checking for errors.
- Server ready to go Online.

Extensions or Alternate Flows:
- Server cannot find file
    a. Set an error flag and lockout Online mode.
    b. Supervisor logs in and selects Online.
    c. Server sends fail Message, indicates missing data file.
    d. Local Server hardware accessed to correct file outside the system.
    e. Restart Server program
- Server finds error in data
    a. Set an error flag and lockout Online mode.
    b. Supervisor logs in and selects Online.
    c. Server sends fail Message, indicates corrupted line item.
    d. Local Server hardware accessed to correct file outside the system.
    e. Restart Server program

Exceptions:
- Save file is corrupted, File not found

Related Use Cases:
- Server Shutdown

Use Case ID: SUC_002
Use Case Name: save data to file
Relevant Requirements: Server should be able to save information to harddisk files.
Primary Actor: Supervisor
Pre-conditions: Supervisor account validated and logged in, Server Shutdown.
Post-conditions: Information data will be saved to harddisk, Supervisor receives a success message.
Basic Flow or Main Scenario:
- Supervisor selects Save Server.
- Server saves data to file.
- Server finishes and sends a success message.

Extensions or Alternate Flows:
- Server cannot find file
    a. Server makes a new one.

- Server can't save file for some reason
    a. Server sends message: error saving file
Exceptions:
- Error writing file
Related Use Cases:
- Server Shutdown

Use Case ID: SUC_003
Use Case Name: Server Shutdown
Relevant Requirements: Server should be able to save/load information from save files.
Primary Actor: Supervisor
Pre-conditions: Supervisor account validated and logged in, Server Online.
Post-conditions: Server Shutdown, only 1 supervisor client connected. Ready to save data.
Employees and ATMs cannot login to Server.
Basic Flow or Main Scenario:
- Supervisor selects Shutdown Server.
- Server stops accepting new clients unless Supervisor.
- Server shuts down.
Extensions or Alternate Flows:
- Many clients are still online
    a. Server cuts connections.
Exceptions:
- Server Shutdown, no service.
Related Use Cases:
- Server Save

Use Case ID: SUC_004
Use Case Name: Server Online
Relevant Requirements: Server should be able to save/load information from save files.
Primary Actor: Supervisor
Pre-conditions: Supervisor account validated and logged in, Server Shutdown. Data loaded
successfully.
Post-conditions: Server Online. Save/Load file unavailable.
Basic Flow or Main Scenario:
- Supervisor selects Server Online.
- Server checks if data loaded successfully.
- Server begins accepting new non Supervisor clients.
Extensions or Alternate Flows:
- Data not loaded successfully
    a. No ability to accept Login credentials
    b. Local Server hardware accessed to correct file outside the system.
    c. Restart Server program
Exceptions: N/A

Related Use Cases:
- Server Save/Load

<u>Use Case ID: SUC_005</u>
Use Case Name: ATM login
Relevant Requirements: Server should be to establish ATM connection with ATM when a user puts in their ATM card and PIN. Server Online.
Primary Actor: Customer
Pre-conditions: Customer has an account with attached ATM card. Customer has inserted card and entered valid PIN. Server Online.
Post-conditions: ATM users can now access their card attached accounts.
Basic Flow or Main Scenario:
- ATM makes connection
- ATM sends login message to server
- Server validates login data: card id, PIN.
- Server logs client on list of validated clients and issues session ID
- Server sends success message with associated account balance status and ids.

Extensions or Alternate Flows:
- PIN wrong
    - Server sends fail message saying invalid PIN
- Card not found
    - Server sends fail message saying invalid card
- No account with attached card
    - Server sends fail message saying invalid account
- Server shutdown

Exceptions:
- invalid PIN, invalid card, invalid account

Related Use Cases: N/A

<u>Use Case ID: SUC_006</u>
Use Case Name: Teller login
Relevant Requirements: Teller can use unique login and password to sign in.
Primary Actor: Employee/Supervisor
Pre-conditions: Server Online, Employee has valid login and password.
Post-conditions: Teller can access customer information.
Basic Flow or Main Scenario:
- Teller sends message with Login and Password
- Server receives message and validates information.
- Server logs client on list of validated clients and issues session ID

- Server sends success message to Teller.

Extensions or Alternate Flows:
- Login or Password invalid
  - send fail message
  - disconnect

Exceptions:
- Invalid Login or Password

Related Use Cases:
- Customer Access
- Logout

Use Case ID: SUC_007
Use Case Name: ATM Withdrawal
Relevant Requirements: Customers can withdraw funds from their positive accounts. Fees can be charged if an account is overdrafted.
Primary Actor: Customer
Pre-conditions: ATM card and PIN validated.
Post-conditions: ATM can dispense funds. Account balance updated.
Basic Flow or Main Scenario:
- ATM sends message with relevant account to withdraw from
- Server checks that balance is positive
- Server updates balance
- Server sends new positive status (may be unchanged) in success message

Extensions or Alternate Flows:
- Invalid account id, send fail message indicated invalid account
- Account balance negative, send fail message indicating negative balance
- Account positive status changes to negative
  - add fee to account
  - update balance

Exceptions:
- invalid account, account negative

Related Use Cases: N/A

Use Case ID: SUC_008
Use Case Name: ATM Deposit
Relevant Requirements: Customers can deposit funds to their account at an ATM.
Primary Actor: Customer
Pre-conditions: ATM card and PIN validated.
Post-conditions: ATM holds funds. Account balance updated
Basic Flow or Main Scenario:
- ATM sends message with relevant account to deposit to
- Server updates balance

- Server sends out an success message and updated account positive status.

Extensions or Alternate Flows:
- Account invalid, send fail message account invalid

Exceptions:
- Account invalid

Related Use Cases: N/A

Use Case ID: SUC_009

Use Case Name: ATM Transfer

Relevant Requirements: Customers can transfer funds between their accounts at an ATM.

Primary Actor: Customer

Pre-conditions: ATM card and PIN validated.

Post-conditions: Account balances updated

Basic Flow or Main Scenario:
- ATM sends message with relevant accounts to transfer from and to
- Server checks from account positive
- Server updates balances
- Server sends out an success message and updated account positive status for both.

Extensions or Alternate Flows:
- Accounts invalid, send fail message account invalid

Exceptions:
- From account negative, send fail message negative account

Related Use Cases: N/A

Use Case ID: SUC_010

Use Case Name: ATM Balance

Relevant Requirements: Customer should be able to check their account balances.

Primary Actor: Customer

Pre-conditions: ATM card and PIN validated.

Post-conditions: ATM receives message with account balance.

Basic Flow or Main Scenario:
- ATM sends message with relevant account id
- Server finds balance
- Server sends balance out with success message

Extensions or Alternate Flows:
- Accounts invalid, send fail message account invalid

Exceptions:
- Account invalid

Related Use Cases: N/A

Use Case ID: SUC_011

Use Case Name: ATM Logout
Relevant Requirements: Customers should be able to logout.
Primary Actor: Customer
Pre-conditions: ATM card and PIN validated.
Post-conditions: Client logged out and disconnected.
Basic Flow or Main Scenario:
- ATM sends Logout message
- Server removes session ID
- Server sends success message and closes connection

Extensions or Alternate Flows: N/A
Exceptions: N/A
Related Use Cases: ATM Login

Use Case ID: SUC_012
Use Case Name: Teller Access/Dismiss Customer
Relevant Requirements: Teller should be able to view any customers account, or dismiss customer information
Primary Actor: Customer, Teller
Pre-conditions: Teller logged in, customer has valid account, or access to customer account
Post-conditions: Teller has all of customer's information, or Teller no longer has customer information
Basic Flow or Main Scenario:
- Access customer
    a. Teller sends message with customer id and passcode
    b. Server verifies information
    c. Server sends customer information and success message
- Dismiss customer
    a. Teller sends message to dismiss
    b. Server updates client information
    c. Server sends success message

Extensions or Alternate Flows:
- Invalid customer id or passcode, send fail message invalid customer id or passcode

Exceptions: invalid customer id or passcode
Related Use Cases: N/A

Use Case ID: SUC_013
Use Case Name: Teller Deposit
Relevant Requirements:
Primary Actor: Server, Teller

Pre-conditions: Teller access to customer
Post-conditions: Update account
Basic Flow or Main Scenario:
- Teller sends message with updated account information
- Server updates customer account
- Server sends out an success message

Extensions or Alternate Flows:
- Account invalid, send fail message account invalid

Exceptions:
- Account invalid

Related Use Cases: N/A

Use Case ID: SUC_014
Use Case Name: Teller Withdrawal
Relevant Requirements: Teller can withdraw funds from customer account if amount is less than balance
Primary Actor: Customer, Teller
Pre-conditions: Teller access to customer
Post-conditions: Account updated
Basic Flow or Main Scenario:
- Teller sends message with updated account information
- Sever checks new account balance is positive
- Server updates customer account
- Server sends out an success message

Extensions or Alternate Flows:
- Account invalid, send fail message account invalid
- Account would have negative balance, senf fail insufficient funds

Exceptions:
- Account invalid
- Insufficient funds

Related Use Cases: N/A

Use Case ID: SUC_015
Use Case Name: Teller Transfer
Relevant Requirements: Teller can transfer funds between customer accounts with verbal permission
Primary Actor: Customer, Teller
Pre-conditions: Teller access to customer
Post-conditions: Accounts updated
Basic Flow or Main Scenario:
- Teller sends message with updated accounts

- Sever checks new account balance for From account positive
- Server updates customer both accounts
- Server sends out an success message

Extensions or Alternate Flows:
- Account invalid, send fail message account invalid
- From Account would have negative balance, senf fail insufficient funds

Exceptions:
- Account invalid
- Insufficient funds

Related Use Cases: N/A

Use Case ID: SUC_016
Use Case Name: Teller Add/Close account
Relevant Requirements: Teller should be add/close customer accounts
Primary Actor: Server, Teller
Pre-conditions: Teller has access to Customer
Post-conditions: Customer has a new account or one less account. id list updated
Basic Flow or Main Scenario:
- New Account
  a. Teller sends message with new account information
  b. Server checks new account balance is positive
  c. Server adds account to Customer
  d. Server sends success message with new account id
- Close Account
  a. Teller sends message with updated account closed and new balance
  b. Server checks account new balance is 0.00
  c. Server removes account from customer

Extensions or Alternate Flows:
- New Account, non positive balance
  ○ send fail message
- Close Account, no more accounts
  ○ send success message and customer file closed
  ○ update customer data closed
- Close account, balance not 0.00
  ○ send fail message, balance non zero

Exceptions:
- Balance non Zero (closed account)
- Non Positive balance (new account)

Related Use Cases:
- Close customer file

Use Case ID: SUC_017
Use Case Name: Teller New/Close customer
Relevant Requirements: Teller should be able to make new/close customer
Primary Actor: Server, Teller
Pre-conditions: Teller has access to customer/customer has no account
Post-conditions: Customer has a new account or no accounts, id list updated
Basic Flow or Main Scenario:
- New Customer
    a. Teller sends message with new customer information and new account
    b. Server checks new account balance is positive
    c. Server adds customer
    d. Server sends success message with new account id and customer id
- Close Customer
    a. Teller sends message with updated accounts closed and new balance
    b. Server checks accounts new balances are all 0.00
    c. Server removes customer

Extensions or Alternate Flows:
- New Customer, non positive balance
    ○ send fail message
- Close Customer, non zero balance
    ○ send fail message

Exceptions:
- Balance non Zero (closed customer)
- Non Positive balance (new customer)

Related Use Cases:
- Add Account

Use Case ID: SUC_018
Use Case Name: Supervisor new employee
Relevant Requirements: Supervisors can add an employee
Primary Actor: Supervisor
Pre-conditions: Teller login, with Supervisor type in their employee data
Post-conditions: New Employee added with newly issued id, login listed updated, id list updated
Basic Flow or Main Scenario:
- Teller - Supervisor sends message with new employee information
- Server checks login is unique.
- Server issues new id
- Server adds new employee
- Server send success message with employee id

Extensions or Alternate Flows:

- Login not unique
  - send fail message
- Password not >6 or <20 characters

Exceptions: Login taken, invaid password format
Related Use Cases: N/A

Use Case ID: SUC_019
Use Case Name: Supervisor change employee password
Relevant Requirements: Supervisors can change employee password
Primary Actor: Supervisor
Pre-conditions: Teller login, with Supervisor type in their employee data
Post-conditions: New Employee has new password
Basic Flow or Main Scenario:
- Teller - Supervisor sends message with last initial and first initial
- Server compiles list of all employees those initials
- Server sends all those employees to Teller
- Teller - Supervisor sends new employee information
- Sever updates employee
- Server send success message

Extensions or Alternate Flows:
- Supervisor doesn't get right employee information
  - sends new message with new initials
- Employee password less than 6 or greater than 20 characters
  - send fail message

Exceptions: invalid password format
Related Use Cases: N/A

Use Case ID: SUC_020
Use Case Name: Supervisor remove employee
Relevant Requirements: Supervisors can remove an employee
Primary Actor: Supervisor
Pre-conditions: Teller login, with Supervisor type in their employee data
Post-conditions: Employee removed, login listed updated, id list updated
Basic Flow or Main Scenario:
- Teller - Supervisor sends message with last initial and first initial
- Server compiles list of all employees those initials
- Server sends all those employees to Teller
- Teller - Supervisor sends employee id to be removed
- Server removes employee
- Server send success message

Extensions or Alternate Flows:
- Supervisor doesn't get right employee information

- - ○ sends new message with new initials
  - Supervisor doesn't send valid employee id
    - ○ send error message

Exceptions: invalid employee

Related Use Cases: N/A