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

Extensions or Alternate Flows: Supervisor Access.

Supervisor logs in with supervisor credential

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

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

<p align="center">Teller Deposit</p>

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 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

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: User deposits counterfeits

Teller tries to deposit a customer's counterfeit checks

1. User tries to deposit a check
2. Check gets validated
3. Counterfeit checks will be kept
4. Teller notifies user the check is a counterfeit and invalid

Teller tries to deposit a customer's counterfeit cash

1. User tries to deposit given cash amount
2. Cash gets validated
3. Counterfeit cash will be kept
4. Teller notifies user the cash is a counterfeit and invalid

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 ATM 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

Supervisor Access

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

ATM Log In

Use Case ID: 1
Use Case Name: System Login
Relevant Requirements: SRS Document
Primary Actor: Customer
Pre-conditions: User inserts card at Insert Screen
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

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 invalid cash

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

User tries to deposit a random item

1. User tries to deposit an invalid item
2. System verifies item for validity
3. Invalid item will be dispensed back out
4. System prompts user to try again.

User tries to deposit too large amount

5. Enters amount
6. Amount > 5k
7. System notifies user the amount is too high, see Teller

Related Use Cases: 1

<p align="center">ATM Withdraw</p>

Use Case ID: 3

Use Case Name: ATM Withdraw

Relevant Requirements: SRS Document

Primary Actor: Customer

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

Basic Flow or Main Scenario:

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: 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

<p align="center">Server Connections</p>

Use Case ID: 6

Use Case Name: Server Connection

Relevant Requirements: SRS Document

Primary Actor: Customer

Pre-conditions: User tries to attempt connection with server through ATM

Post-conditions: User is connected to their account

Basic Flow or Main Scenario:

Server online

1. User tries to connect into account with server being online
2. Server connects user after validation

Extensions or Alternate Flows: None.

Exceptions: Server offline

1. User tries to connect into account with server being offline
2. User will not be able to connect to their account due to offline server
3. System prompts user to try again

Related Use Cases: 1

Server

Use Case ID: SUC_001

Use Case Name: Load from save file

Relevant Requirements: Server should be able to load information from save files.

Primary Actor: Server

Pre-conditions: ATM user or Teller have to request for information to be loaded.

Post-conditions: Information will be provided to Teller or ATM user

Basic Flow or Main Scenario:

- ATM users choose the option to see their account information.
- The message is passed to the server.
- The server sends a success message and provides account information.

Extensions or Alternate Flows:

- Teller chooses the option to see a user's account information per user's request
- The message is passed to the server.
- The server sends a success message and provides account information to the teller.

Exceptions:

- Save file is corrupted

Related Use Cases:

- View account balance(Teller, ATM)
- Accept message

Use Case ID: SUC_002

Use Case Name: Establish ATM connection

Relevant Requirements: Server should be to establish ATM connection with ATM when a user puts in their ATM card.

Primary Actor: Server, ATM client

Pre-conditions: N/A

Post-conditions: ATM users can now access their respective accounts.

Basic Flow or Main Scenario:

- Server establishes a connection with the ATM.

Extensions or Alternate Flows: N/A

Exceptions:

- Power is lost.

Related Use Cases:

- Verify cards
- Verify Pin
- Check if checking or savings account exists
- View account balance
- Withdraw money
- Transfer money

<u>Use Case ID: SUC_0021</u>
Use Case Name: Verify ATM cards
Relevant Requirements: Server should be able to verify an account holder's ATM card
Primary Actor: Server
Pre-conditions: ATM card is inserted into the ATM.
Post-conditions: ATM card is verified by Server
Basic Flow or Main Scenario:
- ATM user inserts card into ATM.
- A message is passed to the server.
- The card is valid
- The server sends a success message and verifies the ATM card.

Extensions or Alternate Flows:
- ATM user inserts card into ATM.
- A message is passed to the server.
- The card is not valid.
- The server sends an error message and lets user redo operation
- The card is valid.
- The server sends a success message and verifies the ATM card.

Exceptions:
- Card is stolen

Related Use Cases:
- Establish ATM Connection
- Send Error message
- Send success message
- Close connection
- Verify ATM pin number.

Use Case ID: SUC_0022
Use Case Name: Verify ATM pin number
Relevant Requirements: Server should be able to verify an account holder's ATM pin number.
Primary Actor: Server
Pre-conditions: ATM card has been verified.
Post-conditions: ATM card pin number has been verified
Basic Flow or Main Scenario:
- ATM user is prompted for pin number
- ATM enters pin number
- A message is passed to the server.
- The pin number is correct.
- The server sends a success message and verifies the ATM pin number.

Extensions or Alternate Flows:
- ATM user is prompted for pin number
- ATM enters pin number
- A message is passed to the server.
- The pin number is incorrect.
- The server sends an error message and asks ATM user to reenter pin number
- The pin number is correct.
- The server sends a success message and verifies the ATM pin number.

Exceptions:
- ATM users have exceeded the maximum number of tries needed to put in the correct pin number.

Related Use Cases:
- Establish ATM Connection
- Send Error message
- Send success message
- Close connection
- Verify ATM cards

Use Case ID: SUC_0023
Use Case Name: Check if checking or savings account exists
Relevant Requirements: Server should be able to check if a checking or savings account exists under an ATM user.
Primary Actor: Server
Pre-conditions: ATM user wants to access operations within a checking/savings account.
Post-conditions: Server has confirmed the existence of a user's checking or savings account.
Basic Flow or Main Scenario:
- ATM user chooses to access their checking or savings account
- A message is passed to the server.
- The server checks if a checking/savings account exists under the requesting user.
- The server sends a success message and allows users to perform specific operations on checking or savings accounts.

Extensions or Alternate Flows: N/A
Exceptions:
- Checking or Savings accounts does not exist.

Related Use Cases:
- Send Error message
- Send success message
- Close connection
- View balance
- Withdraw funds
- Deposit funds
- Transfer funds

Use Case ID: SUC_003
Use Case Name: Send Error Message
Relevant Requirements: Server should be able to send error messages if an exception is caught.
Primary Actor: Server
Pre-conditions: The requirements needed for a use case to be activated has been violated. In other words, an error has occurred.
Post-conditions: Server sends out error message.
Basic Flow or Main Scenario:
- An exception has been caught.
- Server sends out an error message.
Extensions or Alternate Flows: N/A
Exceptions: N/A
Related Use Cases:
- View balance
- Withdraw funds
- Deposit funds
- Transfer funds
- Verify ATM cards
- Verify pin number.
- Load from save file

Use Case ID: SUC_004
Use Case Name: Send Success Message
Relevant Requirements: Server should be able to send success messages if no exception is caught and the operation runs as it is intended.
Primary Actor: Server
Pre-conditions: The requirements needed for a use case to be activated has been fulfilled.
Post-conditions: Server sends out success message.
Basic Flow or Main Scenario:
- No exception is caught during the process.
- Server sends out an success message.
Extensions or Alternate Flows: N/A
Exceptions: N/A
Related Use Cases:
- View balance
- Withdraw funds
- Deposit funds
- Transfer funds
- Verify ATM cards
- Verify pin number.
- Load from save file

<u>Use Case ID: SUC_005</u>
Use Case Name: Close connection
Relevant Requirements: Server should be able to close connection to ATM if card or pin number verification fails.
Primary Actor: Server
Pre-conditions: Card or login verification has failed.
Post-conditions: Server closes connection.
Basic Flow or Main Scenario:
- User inserts a card into the ATM.
- Card is stolen or invalid.
- Server sends error message and closes connection

Extensions or Alternate Flows:
- User enters an ATM card pin number when prompted.
- Pin number is incorrect.
- Server sends error message and closes connection

Exceptions: N/A
Related Use Cases:
- Verify ATM cards
- Verify pin number.

Use Case ID: SUC_006
Use Case Name: Accept Message
Relevant Requirements: Server should be able to accept a message to carry out specific functions from a verified ATM user or teller.
Primary Actor: Server, Teller, ATM user
Pre-conditions: ATM user or teller wants to perform an operation.
Post-conditions: Server accepts a message telling it to perform an operation.
Basic Flow or Main Scenario:
- ATM user chooses a specific operation from ATM
- The ATM sends a message to the server.
- Server accepts the message from the ATM.

Extensions or Alternate Flows:
- Authorized bank teller chooses a specific operation from the teller's computer.
- Teller's computer sends a message to the server.
- Server accepts the message from the teller.

Exceptions: Loss of power.
Related Use Cases:
- View balance
- Withdraw funds
- Deposit funds
- Transfer funds
- Verify ATM cards
- Verify pin number.
- Load from save file.
- Check if checking or savings account exists
- Verify ATM pin number
- Verify ATM card
- Establish ATM connection
- Verify Teller Customer Connection

Use Case ID: SUC_007
Use Case Name: Verify Teller Customer Connection
Relevant Requirements: Server should be able to verify a teller's connection
Primary Actor: Server, Teller
Pre-conditions: Teller enters login information
Post-conditions: Server verifies the teller connection.
Basic Flow or Main Scenario:
- Teller enters login information
- A message is passed to the server.
- Server sends a success message and verifies teller connection.

Extensions or Alternate Flows: N/A
Exceptions: Teller information entered does not match any account in records.
Related Use Cases:
- Teller Login
- Accept Message
- Send Success Message
- Send Error Message

Use Case ID: SUC_008
Use Case Name: Record successful account deposits.
Relevant Requirements: Server should be able to record a deposit to a user's account when a deposit has been completed..
Primary Actor: Server, Teller, ATM client
Pre-conditions: A cash or check deposit has been completed.
Post-conditions: Server records exact deposit amount in hard drive as well as specific details about the transaction.
Basic Flow or Main Scenario:
- ATM users want to deposit a check/cash.
- A message is passed to the server.
- Deposit is successful
- Server records deposit on hard disk.

Extensions or Alternate Flows:
- Teller wants to deposit a check/cash on behalf of the Account holder.
- A message is passed to the server.
- Deposit is successful
- Server records deposit on hard disk.

Exceptions: N/A
Related Use Cases:
- Deposit funds
- Accept Message

Use Case ID: SUC_009
Use Case Name: Record successful account withdrawals
Relevant Requirements: Server should be able to record a withdrawal from a user's account when a withdrawal has been completed..
Primary Actor: Server, Teller,ATM client
Pre-conditions: Funds have been withdrawn.
Post-conditions: Server records exact withdrawal amount in hard drive as well as specific details about the transaction.
Basic Flow or Main Scenario:
- ● ATM users want to withdraw funds.
- ● A message is passed to the server.
- ● Withdrawal is successful
- ● Server records withdrawal on hard disk.
Extensions or Alternate Flows:
- ● Teller wants to withdraw funds on behalf of an Account holder.
- ● A message is passed to the server.
- ● Withdrawal is successful
- ● Server records deposit on hard disk.
Exceptions: N/A
Related Use Cases:
- ● Withdraw funds
- ● Accept Message

Use Case ID: SUC_010
Use Case Name: Record successful transfer of funds
Relevant Requirements: Server should be able to record a successful transfer from one account to another.
Primary Actor: Server, Teller, ATM client
Pre-conditions: A transfer of funds from one account to another has been completed.
Post-conditions: Server records exact transfer amount as well as relevant details on the transaction.
Basic Flow or Main Scenario:
- ATM users or tellers want to transfer funds from a user's checking account to his/her own savings account and vice versa.
- A message is passed to the server.
- Transfer is successful
- Server records transfer on hard disk.

Extensions or Alternate Flows:
- Teller wants to transfer funds from one user's account to another user's account on behalf of the Account holder.
- A message is passed to the server.
- Transfer is successful
- Server records transfer on hard disk.

Exceptions:
- Receiving account does not exist.
- Bank of the receiving account does not approve the transfer.

Related Use Cases:
- Transfer funds(Teller)
- Transfer funds(ATM)
- Accept Message

Use Case ID: SUC_011
Use Case Name: Record account holder's logins
Relevant Requirements: Server should be able to record whenever an account holder accesses his/her account.
Primary Actor: Server, Teller, ATM client
Pre-conditions: An account holder logs in to account.
Post-conditions: Server records all relevant details regarding that login, including the location logged in from, what the user did, the time the user accessed the account and how long he was logged in for.
Basic Flow or Main Scenario:
- ATM users accesses his/her account
- A message is passed to the server.
- Server records log in

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