

HOMEWORK

ATM Requirements – Mind Map

CENTRAL SERVICE

I. Authentication Request

[A]

- Q1. Can any type of ATM card be accepted?
- Q2. Can the ATM card be from any bank?
- Q3. How will the card be checked?
- Q4. What happens if the introduced card is not an accepted type of card?
- Q5. What happens if an introduced accepted type of card does not pass the authentication check?

[B]

- Q1. What PIN? Correct PIN?
- Q2. How many characters should the PIN have?

[1.1]

- Q1. Continue to what menu?

[2.1]

- Q1. Will the card get confiscated, if the user introduces a wrong PIN, 3 times in a row?
- Q2. If correct PIN is introduced on 2nd or 3rd attempt, will the authentication be authorized?

[3]

- Q1. Can any type of card be confiscated?
- Q2. Will all unaccepted type of cards get confiscated?
- Q3. What are the conditions for confiscating a card?

[3.1]

- Q1. What is the content?

[3.2]

- Q1. How long can a card remain there?
- Q2. What happens with the cards in the Confiscated slots?
- Q3. Will the user be notified on how he/she can retrieve his/her card?
- Q4. Will the user be informed on what he/she can do next?

II. Account Access Service

[A]

Q1. Who's account balance?

[B.1]

Q1. Can the card belong to any bank, from anywhere in the world?

Q2. What are the exact criteria for applying the fee?

Q3. What happens if the user chooses to retrieve a certain amount of money which requires a fee, but doesn't have enough money in the account to pay that fee?

[B.2]

Q1. If the fee 'can' be based on the selected withdrawal amount, what are the exact criteria for applying the fee?

Q2. Can the fee be equal or larger than the withdrawal amount?

Q3. Is the fee amount randomized, fixed or a certain percent of the withdrawal amount?

Q4. When the transaction fee is displayed, will the customer have the option to accept/cancel the transaction?

[C]

Q1. What does the authorization consist of?

Q2. How long should the authorization take?

[D]

Q1. Any amount of money?

Q2. When will the confirmation be sent?

[E]

Q1. What will the notification consist of?

Q2. How long after money were not taken will the notification be sent?

III. Maintenance Alerts

Q1. Regarding what components of the ATM, exactly?

Q2. How are the Alerts going to be sent? In what format?

FUNCTIONAL REQUIREMENTS

1. Welcome Screen

Q1. What are all the displayed options?

[1.1]

- Q1. What is the default language?
- Q2. Will the language selection be available regardless of whether or not an ATM card has been introduced?
- Q3. Will the language selection be available regardless of whether or not a successful authentication occurred?

2. User Authentication

[2.1. A]

- Q1. Any type of ATM card?
- Q2. Can the card belong to any bank?
- Q3. Can the card be inserted in any way?

[2.1. B]

- Q1. Can user introduce any PIN number?
- Q2. How can a user provide a PIN?

[2.3]

- Q1. How does the user know if the PIN is being introduced or if it has been introduced at all?

[2.4]

- Q1. After authentication, what will the screen menu show?

[2.5]

- Q1. Once authenticated, will the screen menu only display the 3 available transactions?

3. Transactions

- Q1. Are these all the available options on the screen menu?

[3.1.1]

- Q1. Predefined values are not specified.
- Q2. What happens after a predefined amount is chosen?

[3.1.2]

- Q1. Range is not specified.
- Q2. How can a user indicate a customized amount?
- Q3. What happens after user indicates a customized amount?

[3.1-A]

- Q3. What happens if the user wants to withdraw one note of the smallest allowed denomination, but the Vault only has the largest denomination?
- Q4. Are all denomination notes going to be accepted for withdrawal?
- Q5. Can the user withdraw any currency of any nation in the world?
- Q6. What happens if the Vault does not have enough notes for the transaction?

[3.1-B]

- Q1. What happens if the transaction is not approved by Central Service?
- Q2. Will the money still be dispensed if the transaction is not approved?
- Q3. What will the screen show if the transaction is not approved by Central Service?

[3.1-C]

- Q1. What is the sum of money being dispensed?
- Q2. How fast, after transaction is approved, will the money be dispensed?

[3.1-C1]

- Q1. Will the user be indicated in any way to pick up the ejected card?
- Q2. How will the user be indicated to pick up the card?
- Q2. For how long?

[3.1-C2]

- Q1. For how long will the user be signaled (with sound) to take the money?

[3.1-C3]

- Q1. If the user forgets to take the card/money, when will the Central Service be notified?
- Q2. What happens after the Central Service has been notified?

[3.2.1]

- Q1. Can any denomination of notes and coins be inserted?
- Q2. Can notes and coins of any currency be inserted?
- Q3. What will the screen show after the money have been inserted?
- Q4. Will the user be indicated in any way where the note and/or coin drawers are?

[3.2.2]

- Q1. What are the criteria for successfully validating the inserted money (both notes and coins)?
- Q2. How fast should the inserted money be scanned for validation? Should there be a time range?

[3.2.3]

- Q1. What is the currency used for displaying the money on the screen?
- Q2. Is there a default currency?
- Q3. Can the user change the currency?

[3.2.4]

- Q1. How long should it take for the Central Service to verify the deposit?
- Q2. What will the screen display while the Central Service is verifying the deposit?
- Q3. What happens after the deposited amount is transferred to the incoming vault?

[3.2.5]

- Q1. Is the deposited amount transferred to the incoming vault regardless of whether or not the Central Service successfully verified the deposit?
- Q2. What happens after the deposited amount is transferred to the incoming vault?

[3.3.1]

- Q1. Can the user check only one of his/her accounts balances, if he/she has more than one account?
- Q2. Can the user check only one of his/her accounts balances at a time, if he has more than one account?

[3.3.2]

- Q1. What happens next?
- Q2. What will the screen be displaying next?
- Q3. What if the transaction is not approved by the Central Service?
- Q4. How long should it take for the transaction to be approved by the Central Service?

[3.4]

- Q1. Does this mean that the user can never Cancel the process after Central Service has verified a transaction?
- Q2. What happens after a user has pressed the Cancel button?

[3.5]

- Q1. How can a user choose to print a receipt?

4. Printing Receipts

[4.1]

- Q1. How and When will the customer choose if he wants a receipt or not?
- Q2. What happens if the customer does not want a receipt?

[4.2]

- Q1. What defines a successful transaction?

[4.3.1]

Q1. What format? (e.g., US, European)

Q2. What will the printed date be?

[4.3.2]

Q1. What format? (e.g., AM/PM; 00:00)

Q2. What will the printed time be?

[4.3.3]

Q1. What is this ATM's ID?

[4.3.4]

Q1. What are the types of transaction to choose from?

[4.3.5]

Q1. What account number? (Current user's bank account number?)

Q2. How many characters should an account number have?

[4.3.6]

Q1. What card number? (Current user's card number?)

Q2. How many characters should a card number have?

[4.3.7]

Q1. Which one out of these 2 options?

Q2. Can it be both?

Q3. Is this particular shown data dependent on the type of transaction (4.3.4)?

5. Timeouts

[*]

Q1. The exact values of time frames are not specified.

[5.1.1]

Q1. What is the waiting time for user input?

[5.1.2-A]

Q1. What will the screen-menu display next?

[5.1.2-B1]

Q1. What happens next?

Q2. What will the screen show next?

Q3. Will a receipt be printed out with more details?

[5.1.3-A]

Q1. What will the screen-menu display next?

[5.1.3-B1]

Q1. What happens next?

Q2. What will the screen show next?

Q3. Information not clear. The receipt for identifying the transaction will be physically on top of the money inside the Forgotten Money Vault?

OR

Will the receipt be printed out for the customer?

[5.1.4]

Q1. Sentence is unclear. Each time a communication with Central Service occurs, a timeout should be handled?

OR

Upon communication with Central Service, if a timeout occurs, it should be handled?

[5.1.4-A2]

Q1. How long will this timeout be, exactly?

Q2. What happens during this timeout?

[5.1.4-C]

Q1. Does this mean that the ATM is still capable of some functionalities, such as communication with the Central Service?

Q2. If yes, what are all the functionalities that are still available in the "out-of-order mode"?

Q3. What are the specified time intervals?

Q4. What happens if the ATM tries again and succeeds to communicate with Central Service?

6. Alarms

[6.1]

Q1. How will the Central Service alert the crew, precisely? (Phone, SMS, Email, Online Platform, other?)

Q2. Will Central Service communicate the alert to the Bank Service?

[6.1.1]

Q1. After how much time does the timeout expire?

[6.1.2]

Q1. Does this mean that the machine will go into "out of order mode" only if transports for both Depositing and Withdrawal get jammed? Needs clarification.

[6.1.4]

Q1. Information unclear: Forgotten money (by user)? AND/OR Vault full? Needs confirmation.

[6.1.8]

Q1. This info needs clarification. Should it be "Forgotten money, printer jammed or out of ink"?

Q2. If yes, then this information has already been stated above.

[6.2]

Q1. To whom are these messages sent to?

Q2. What is the content of the messages?

Q3. If this is correlated with the above statement (*), does that mean that Central Service will alert the maintenance crew through messages?

Q2. What is the content of the messages?

Q3. If this is correlated with the above statement (*), does that mean that Central Service will alert the maintenance crew through messages?

Q4. In the event of any of these cases, will the machine also go into "out of order mode"?

[6.2.1]

Q1. What does this mean?

Q2. Range for "low levels" is missing.

[6.2.2]

Q1. What does this mean?

Q2. Range for "high levels" is missing.

[*] Out of Order mode

Q1. Will the user be notified about this?

Q2. How will the user be notified?

Q3. What does "out of order mode" consist of?

Q4. Will any functionalities still be available for the user?

Q5. Will the ATM still be able to communicate with the Bank Service?

NON-FUNCTIONAL REQUIREMENTS

[1]

Q1. How many numbers should the PIN consist of?

Q2. What happens if the user does not enter any PIN at all, ever?

Q3. Will there be any alarm/notification of any nature, if the user doesn't introduce a PIN?

[2]

- Q1. Can it shut down/restart under any circumstances? (e.g., while performing an action (withdrawing money, entering PIN, card is inside ATM, checking balance, other)
- Q2. If yes, what happens with the action that was underway during shut down/restarting?
- Q3. What happens if a request is sent to the Bank right before the ATM shuts down/restarts?
- Q4. What happens if a card is inside while the ATM is shutting down/restarted?

[3]

- Q1. Can it be opened or refilled under any circumstances? (e.g., while performing an action (withdrawing money, entering PIN, card is inside ATM, checking balance, other)
- Q2. What happens if a request is sent to the Bank right before the ATM is opened/refilled?
- Q3. What happens if a card is inside while the ATM is opened/refilled?

[4]

- Q1. Information is unclear. Needs clarification.
 - Q1.1. Physically withdrawing the money from the ATM within 5 seconds after they have become available for picking?

AND/OR

- Q1.2. Waiting for the money to be become available for picking them from the cash dispenser for a maximum of 5 seconds?
- Q2. What happens after 5 seconds have passed?

[5]

- Q1. What is the default language?

[6]

- Q1. What does a Swedish/UK ATM type consist of?
- Q2. Are there any differences between Swedish and UK ATM types that we should be aware of?

[7]

- Q1. How are the transactions secured?
- Q2. What is the level of security?

Total Questions = 164

