

ATM Project Handout 3-3
Use Case Report: Transfer Funds

Version 1.0

Introduction

This is an example of what a use case report might look like. There is much more detail in the use-case report than there was in the step-by-step outline that was the first draft of the use case.

In this example, we show the report as it might appear in the middle of developing it. There are still mistakes in the report, which we point out in our comments.

There are many styles of writing use cases. We show one style here, based on the template and guidelines for a use-case report in the Rational Unified Process.

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Revision History

Date	Version	Description	Author
15/03/2000	3.1a	Revised format for RUP 2000	J. Bell

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Use Case Report: Transfer Funds

1. Use Case Name: Transfer Funds

1.1 Brief Description

This use case describes how a Bank Customer uses an ATM to transfer money between different accounts.

2. Flow of Events

2.1 Basic Flow

1. Insert Card

This use case begins when the Bank Customer inserts a Bank Card in the card reader on the ATM machine. The ATM validates the card.

2. Enter PIN

The ATM asks for the customer PIN code. The Bank Customer enters the PIN code. The ATM verifies the PIN.

3. Select 'Transfer Funds'

The ATM displays the different alternatives that are available on this unit. The Bank Customer selects "Transfer Funds".

4. Enter 'From Account', 'To Account' and Amount

The ATM asks for account to withdraw from, account to deposit into and amount to transfer. The Bank Customer enters accounts and amount.

5. Transfer Funds

The ATM sends the card id, PIN, amount and account to the Bank Consortium. The Bank Consortium replies that the transfer is accepted.

6. Receive Card and Receipt

The ATM system returns the Bank Card to the Bank Customer and prints a receipt. The use case ends.

2.2 Alternative Flows

2.2.1 Not a valid card

In Step 1, Insert Bank Card, of the basic flow, if the card is not valid it is ejected to the Bank Customer with a "sorry not a valid card" message. The use case ends.

2.2.2 Wrong PIN

In Step2, Enter PIN, of the basic flow, the Bank Consortium indicates that the PIN is wrong. The ATM displays the message "wrong PIN" to the Bank Customer. The Bank Customer has three tries to get it right. If the Bank Customer correctly enters the PIN, the basic flow resumes at Step 3. Otherwise the card is kept by the machine and the use case terminates.

2.2.3 Card stuck in card reader while reading card

In Step 1, Insert Bank Card, when the magnetic strip is read, the card gets stuck. An alarm is then sent to the maintenance crew and the Bank Consortium. The local video camera starts recording. The ATM displays a warning message to the Bank Customer. The use case ends.

2.2.4 "From account" does not exist

In Step 5, Transfer Funds, if the Bank Consortium indicates that the 'from' account does not exist, the ATM replies with a "sorry account does not exists" message and resumes at step 4 in the basic flow.

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Or will (s)he have to reenter the PIN Code?

2.2.5 "To account" does not exists

In Step 5, Transfer Funds, if the Bank Consortium indicates that the 'to' account does not exist, the ATM replies with a "sorry account does not exists" message and resumes at step 4 in the basic flow.

Or will he have to reenter the PIN Code?

2.2.6 No confirmation

In Step 5, Transfer Funds, if the Bank Consortium does not answer (the time out is 25 seconds) then the ATM can't determine if the transaction is done or lost. What will the message be to the Bank Customer? "Your transfer may or may not be done. Please contact your bank to find out."

((We need a decision here!))

2.2.7 Card stuck in card reader while ejecting

In Step 6, Receive Card and Receipt, of the basic flow, or in the Quit Alternative Flow, the card gets stuck. The ATM may just try to eject the Bank Card for 2 minutes. If it still can't eject the Bank Card, then it has to be kept by the ATM. An alarm is then sent to the maintenance crew and the Bank Consortium. The local video camera starts recording. The ATM displays a warning message to the Bank Customer. The use case ends.

2.2.8 Card never removed from card reader

In Step 6, Receive Card and Receipt, of the basic flow, if the card is still there after 30 seconds an attention sound shall be turned on.

If the card is still there after 55 seconds it is retracted and placed in the wastebasket. This has to be written to the log. Then the attention sound is turned off. The use case ends.

2.2.9 Breakin

If, at any time during the use case, any of the ATM's shell protection sensors are activated, then the video camera begins recording, and an alarm is sent to the Police. All current data is written to the log record. This log record is also sent to the Bank Consortium. The card is kept by the ATM. The current transaction is terminated. The use case terminates.

2.2.10 Quit

The Bank Customer can anytime during the use case decide to quit. The transaction is stopped. If the ATM has already transmitted its request to the Bank Consortium, then the ATM sends a new message to the Bank Consortium to abort this transaction. The ATM records the aborted transaction in its log.

The Bank Card is ejected. If an envelop has been inserted, it is returned. The use case terminates.

2.2.11 No reply from User

If, at any time during the use case, the system asks for input from the Bank Customer and (s)he doesn't reply within 30 seconds - then a warning sound will beep.

If there still is no reply for 25 more seconds, then this operation will be closed down and the ATM will put the card in the wastebasket. This will be registered on the log. The use case ends.

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2.2.12 Power off

If, at any time during the use case, the power goes down, then all activities are frozen and the card is mechanically ejected. The ATM issues a warning message that the Bank Customer must visit the bank to finish the transaction. The use case ends.

3. Special Requirements

3.1 Standard Card Format

The ATM shall recognize all Bank Cards that have magnetic strips encoded in Bank Association Standard format.

4. Pre-Conditions

4.1 Bank Customer has a card

The Bank Customer must have a bank card in order to begin this use case.

4.2 ATM has connection to Bank Consortium

The ATM must have a connection to the Bank Consortium in order to begin this use case.

5. Post-Conditions

5.1 Card return

At the end of this use case, either the Bank Customer will have their bank card returned or the bank card will be kept and the Bank Customer will be notified of where it will be sent.

5.2 Accounts balanced

At the end of the use case, all account and transaction logs are balanced, and communication with the banking system is reinitialized.

6. Extension Points

None specified for this use case.

7. Relationships

The Actor starting this Use Case is:

Bank Customer

Actor(s) also involved in this Use Case:

Bank Consortium

Maintenance crew

Police alarm central

8. Use Case Diagrams

None specified for this use case.

9. Other Diagrams

None specified for this use case.