

ATM Project Handout 4-3

Use Case Report: Withdraw Cash

Version 1.0

Revision 2

Introduction

This is an example of what a structured use case report might look like. This example shows the Withdraw Cash Use Case Report, after the first version (UC 3-1) has been structured to omit details that are now found in

- UC4-2 Identify Customer Use Case Report
- UC4-6 Withdraw Change Use Case Report

In this example, we show the report as it might appear towards the end 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: Withdraw Cash

1. Use Case Name: Withdraw Cash

1.1 Brief Description

This use case describes how a Bank Customer uses an ATM to withdraw money from his/her bank account.

2. Flow of Events

2.1 Basic Flow

1. Identify Customer

The Bank Customer's identity is verified as described in the included use case Identify Customer.

2. Select 'Withdraw Cash'

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

3. Enter Account and Amount

The ATM asks for account to withdraw from and amount to withdraw. The Bank Customer enters account and amount.

4. Debit Bank Account

The ATM sends the card id, PIN, amount and account to the Bank Consortium. The Bank Consortium replies that the transaction is accepted. The ATM system reports to the Bank Customer that it is ready to dispense cash.

5. Print Receipt

The ATM asks the Bank Customer if a receipt is desired. The Bank Customer requests a receipt. The ATM system prints the receipt.

6. Receive Cash

The ATM system dispenses money to the Bank Customer.

7. Receive Card

The ATM system returns the Bank Card to the Bank Customer. The use case ends.

2.2 Alternative Flows

2.2.1 Amount requested requires denominations not available

In Step 3, Enter Account and Amount, of the basic flow, if the Bank Customer enters an amount that can't be 'created' with the denominations of bills contained in the ATM, then the machine will display a warning message showing the kinds of bills are available, and ask the Bank Customer to reenter the amount. The basic flow is resumed at step 4. This can be done over and over again until the Bank Customer enters a amount that is OK.

2.2.2 Amount requested is more than money available

In Step 3, Enter Account and Amount, of the basic flow, if the Bank Customer enters an amount that is more than the amount of money contained in the ATM, then the machine will display a warning message showing the current maximum amount that can be dispensed at the ATM, and ask the Bank Customer to reenter the amount. The basic flow is resumed at step 3. This can be done over and over again until the Bank Customer enters a amount that is OK.

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2.2.3 Not enough money in account

In Step 4, Debit Bank Account, of the basic flow, if the Bank Consortium replies to the ATM that there is not enough money in the Bank Customer's bank account, the ATM sends the Bank Customer an error message "Sorry not enough money in account". The ATM continues at Step 3, Enter Account and Amount, of the basic flow.

2.2.4 Wrong account

In Step 4, Debit Bank Account, of the basic flow, the Bank Consortium indicates the card is valid but the Bank Customer specified an account that does not exist or is not connected to the card. The result will be an error message "Sorry wrong account" and the Bank Customer has to restart in Step 3 of the basic flow.

2.2.5 No printed receipt requested

In Step 5, Print Receipt, of the basic flow, if the Bank Customer does not request a printed receipt, no receipt is printed. The basic flow resumes at Step 6, Receive Cash and Card,

2.2.6 Out of money in ATM machine

In Step 6, Receive Cash, of the basic flow, if there is no money left in the machine, then the ATM will display a warning message - this ATM is out of money. The use case ends.

2.2.7 Error when dispensing cash

In Step 6, Receive Cash, of the basic flow, if the ATM cannot validate a bill it is dispensing to the Bank Customer, it is not dispensed to the Bank Customer. Instead, the next bill is validated and dispensed. If all bills left in the ATM are faulty, then the ATM displays a warning message "Sorry, out of bills. Only XXX amount has been debited from your account." The ATM notifies the Bank Consortium to debit the account only for the amount actually dispensed. An alarm is sent to the maintenance crew. The use case ends.

2.2.8 Money never removed from tray

In Step 6, Receive Cash, of the basic flow, if the dispensed money is still there after 30 seconds an attention sound is turned on.

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

3. Special Requirements

3.1 Reliable Cash dispensing

The ATM shall dispense the correct amount of cash in 99.9% of the requested cash withdrawals.

4. Pre-Conditions

None specified for 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.

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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

6.1 Alternate Fund Withdrawals

This extension point occurs in place of Step 6 in the Basic Flow.

7. Relationships

7.1 Actors

The Actor starting this Use Case is:

Bank Customer

Actor(s) also involved in this Use Case:

Bank Consortium

7.2 Associations TO other Use Cases

Use Cases included by this Use Case (outgoing Include associations)

Identify Customer

Use Cases extended by this Use Case (outgoing Extend associations)

None

7.3 Associations FROM other Use Cases

Use Cases including this Use Case (incoming Include associations)

None

Use Cases extending this Use Case (incoming Extend associations)

Withdraw change

8. Use Case Diagrams

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