Cashpoint

Description

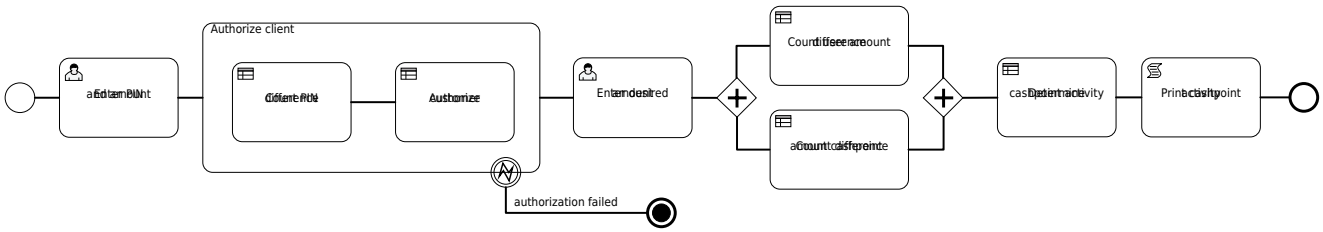
The system is composed of till which can access a central resource containing the detailed records of customers' bank accounts. A till is used by inserting a card and typing in a Personal Identification Number (PIN) which is encoded by the till and compared with a code stored on the card. After successfully identifying themselves to the system, customers may either: make a cash withdrawal or ask for a balance of their account to be printed. Withdrawals are subject to a user resources, which means the total amount that user has on account. Another restriction is that a withdrawal amount may not be greater than the value of the till local stock. Tills may keep illegal cards, i.e. after three failed tests for the PIN.

Source: The case has been developed based on the paper: T. Denvir, J. Oliveira, and N. Plat., *The Cash-Point (ATM) 'Problem'*, *Formal Aspects of Computing*, 12(4):211–215, 2000, and the ATM use case presented in UML – A Programmers Guide.

Model

BPMN Diagram types: Process,

Source files: cashpoint.sgx, cashpoint.bpmn cashpoint-all.pdf
Diagram files:



, cashpoint.pdf

Model logic

XTT2 logic model: cashpoint_xtt.hml

Model metrics

Main diagram:

Abbreviation	Name	Value
CNC	Coefficient of Network Complexity	1.33
IC	Interface Complexity Metric	28.0
NOA	Number of Activities in a Process Metric	7.0
NOAC	Number of Activities and Control Flow Elements in a Process Metric	13.0
NOAJS	Number of Activities, Joins and Splits in a Process Metric	9.0
DSM	Durfee Square Metric	2.0
PSM	Perfect Square Metric	4.0
ALL	All Elements	26.0

Authorize client:

Abbreviation	Name	Value
CNC	Coefficient of Network Complexity	0.5
IC	Interface Complexity Metric	0.0
NOA	Number of Activities in a Process Metric	2.0
NOAC	Number of Activities and Control Flow Elements in a Process Metric	2.0
NOAJS	Number of Activities, Joins and Splits in a Process Metric	2.0
DSM	Durfee Square Metric	1.0
PSM	Perfect Square Metric	1.0
ALL	All Elements	3.0