CS 441 Software Engineering
Assignment 2

Due on Wednesday, February 19, 2020, 11:59PM.

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1 Individual Portion

1. Create a use case diagram for an online banking system based on the descriptions below (25 points).

The online banking system has two types of users: customer and system admin. Each of them can interact with the system in the following ways.

Customer:

- Open an account (a request will be sent to system admin).
- Close an account (a request will be sent to system admin).
- Check the balance of an account.
- Print the statement of an account.
- Transfer money between two accounts of the customer.
- Transfer money between the customer's account and another customer's account.
- Report a problem if a transfer transaction fails.

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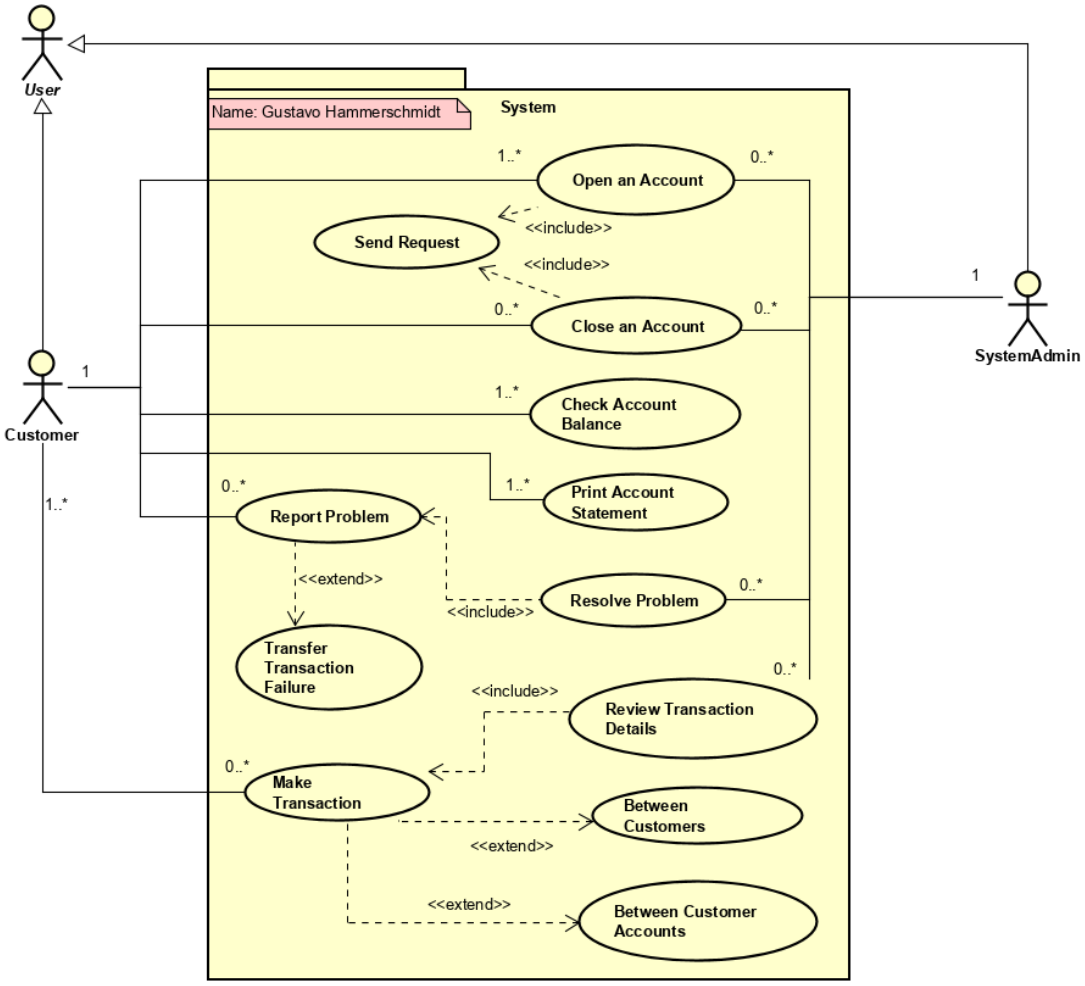
System Admin:

- Handle the OpenAccount/CloseAccount request from the customer.
- Review the details of a transaction.
- Resolve a problem that the customer reported.

Make use of the inclusion, extension, and generalization relationships as needed.



(a) Online-banking System Use-Case Diagram

2. Complete the following use case for the online banking system (15 points). Create at least one MSS and two extension scenarios.

Use Case Name	Client Checking-to-Savings-Account Transfer
Goal	Transfer money from the user's checking account to savings account.
Primary Actor	User
Preconditions	1. User must be logged to the system. 2. User's balance must be positive in the account from which the money will be discounted. 3. User must do one transfer at a time User must be able to check accounts' balance.
Guarantee(Post-conditions)	1. User must have its accounts' balances changed. 2. User must receive a confirmation of the transfer. 3. If user's savings account balance is negative, money from the transfer must be discounted to pay the previous debts.

Table 1: Question 2 Use Case: Part 1

Main Success Scenario	1. User logs into the system. 2. User selects to transfer money from checking to savings account. 3. User defines the amount of money to transfer. 4. System checks if balance is not negative. 5. System checks if the amount is smaller than the balance. 6. System makes the transfer. 7. System notify the user about the transfer.
Extensions	1a. If user fails to log, he may try to do it again. 4a. System Notifies that the checking account balance is negative and that the transfer was denied. 5a. System will notify the user that the amount to be transferred is greater than the balance. 5a1. System will give the user the option to transfer the balance amount instead. 5a2. If user does not want to continue, system will cancel the transfer tentative. 6a. System checks if the savings balance is not negative. 6a1. System discounts the debts of the savings account.

Table 2: Question 2 Use Case: Part 2