One Bank Proposal - Banking System

Software Requirements Specification

Revision History

Date	Revision	Description	Author
06/11/21	0.9	Initial Version	Garten, Le, Odumosu
06/23/21	0.99	Added Requirements from Client	Garten, Le, Odumosu
06/29/21	1.0	Updated Requirements	Le
07/07/21	1.1	Updated and cleaned up	Garten, Odumosu

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1. Purpose

This document outlines the requirements for a Banking System..

1.1. Scope

This document will catalog the user, system, and hardware requirements for the Banking system. It will not, however, document how these requirements will be implemented.

1.2. Definitions, Acronyms, Abbreviations

1.2.1 User - Customers of the bank

1.2.2 Teller - Bank employee which helps the customers with their transactions

1.2.3 ATM - Automatic Teller Machine which lets customers have remote access to their accounts

1.2.4 Supervisor - Bank employee with more credentials to initiate or shut off server as well as manage employee accounts.

1.2.5 .csv - Comma Separated Values, common file type for saving data.

1.3. References

1.3.1 SRS Document
1.3.2 Use Case Diagram
1.3.3 Use Case Specifications
1.3.4 Class Diagram
1.3.5 Sequence Diagram
1.3.6 Design Document
1.3.7 Gantt Schedule

1.4. Overview

Banking system is designed to handle customer transactions through an ATM, or employee using a Teller interface, to a dedicated server. All Customer account information will be stored into a separate CSV file for future use. Employee accounts will be similarly stored in a different file.

2. Overall Description

2.1. Product Perspective

2.2. Product Architecture

2.2.1 Three modules will be made. ATM module, Teller Module, Server Module

2.2.2 System communicates over TCP/IP.

2.3. Product Functionality/Features

2.3.1 View Balance, and limited history
2.3.2 Perform:
    2.3.2.1Transfer between accounts
    2.3.2.2 Deposit: by check or cash
    2.3.2.3 Withdrawal, if balance is positive

2.3.3 Add/Remove Accounts, Customers, and Employees.
2.3.4 PIN & password for Customers. Login & passwords for Employees and Supervisors.
2.3.5 Unique ID for Savings, Checking accounts, Customers, and Employees.

2.4. Constraints

2.4.1 Must use Java only.
2.4.2 Must connect over TCP/IP.
2.4.3 No outsource funding.
2.4.4 All development will be conducted with GitHub and Eclipse IDE.
2.4.5 Server must be Online for a ATM or non-supervisor to have service
2.4.6 System will be not in service with corrupted files

2.5. Assumptions and Dependencies

2.5.1 Multiple simultaneous clients at ATM and Teller

2.5.2 Customer ATM cards can only be tied to upto one Savings and/or upto one Checking account

2.5.3 Teller employees require Customer passcodes and photo id to access their accounts

2.5.4 Teller employees are not allowed be involved in a Customer overdraft from their accounts

2.5.5 ATM can count cash properly and knows what cash looks like.

2.5.6 $20k local cash is held at each ATM. Max withdrawal is $400, only increments of $20

2.5.7 ATM can generally recognize a check.

3. Specific Requirements

3.1. Functional Requirements

3.1.1. Common Requirements:

3.1.1.1 Each user will have an account with a unique id, and password/pin.

3.1.1.2 All data will be saved to the hard disk for reliability and reloading.

3.1.2. ATM Module Requirements:

3.1.2.1 Customers should be able to use their unique issued id and 4 digits PIN to log in.

3.1.2.1.2 Cards will be kept if found stolen.
3.1.2.1.3 Reject cards if not valid.
3.1.2.1.5 Reject any invalid objects being deposited (indicated check is not a check, cash is not cash)

3.1.2.2 Customers should be able to view their balances.
3.1.2.3 Customers should be able to deposit a maximum of $5,000 with cash or check.
3.1.2.4 Customers should be able to withdraw/transfer from an account if the balance is positive.
3.1.2.5 Customers should be able to transfer between accounts with a maximum of $5,000

3.1.2.6 Customers should be able to log out.

3.1.2.7 Only dispense cash if there's enough cash locally available.

3.1.3. Teller Module Requirements:

3.1.3.1 Tellers should be able to use their unique issued ID number and password to sign in. ID number will be an alphanumeric string, 10 characters long and the password will be an alphanumeric string between 7 and 20 characters long.

3.1.3.2 Tellers should be able to view any user's account.

3.1.3.3 Tellers should be able to view a user's banking statement.

3.1.3.4 Tellers should be able to open an account for a user as well as close a user's account with User's permission.

3.1.3.5 Tellers should be able to withdraw money from the account if the amount is less than the balance.

3.1.3.6 Tellers should be able to deposit money into an account only with the User's permission.

3.1.3.7 Tellers should be able to sign out.

3.1.4. Server Module Requirements:

3.1.4.1 Can accept messages from both ATM and Teller Clients over TCP/IP.

3.1.4.2 Validates login/pin information.

3.1.4.3 All transactions will be logged for Bank Statements

3.1.4.4 All balances and accounts status will be saved to the hard disk.

3.1.4.5 Ensures complete transaction before committing to saved data on hard disk. Interruption will abandon any proposed changes

3.1.4.6 Startup and shutdown protocols.
3.1.4.6 Threads will be doing the authentications

3.2. Internal Interface Requirements

3.2.1 Users will have their accounts stored into a csv file.
3.2.2 Users last deposit, withdrawal,

4. Non-Functional Requirements

4.1. Security and Privacy Requirements

4.1.1 ATM will hold very limited information.

4.2. Environmental Requirements

4.2.1 System has to work on MacOS and WindowsOS.
4.2.3 System has to work over TCP/IP.