CS401
Software Engineering

Group Project Descriptions

Banking System
Projects will include
- Project documentation
- Java source code
- Junit test suite
- Git source control repository
- Brief presentation

Create a banking software system for a very large bank. This system should provide an interface for authorized bank employees to assist customers. Additionally, there should be a application for ATM services. Fraud should be minimized. Most standard banking services should be provided.

This is a Java application with a GUI that operates over TCP/IP. This system requires a server application and client application. There is no web or HTML component. No databases, libraries, frameworks, or other technologies may be used without approval.

Requirements
1. There needs to be three interfaces: teller (bank employee), teller (customer), and ATM
2. Users will be able to deposit (cash only), withdraw, transfer funds (between only own accounts), and check balances from the teller or an ATM
3. ATM will require a PIN and card number connected to an account to access, and can has a maximum limit of withdrawals and deposits, to prevent fraud
4. Teller/bank employee requires an account number and identification to login the customer, this is different to the ATM since it requires identification, higher limit to a transaction since it's harder to commit fraud. Customers can update passwords/PINs at the teller. Customers can open and close accounts at the teller.
5. A ledger is required to keep track of transactions. This needs to keep track of time of transaction, debit/credit of transaction, and location (specifies if ATM/Teller)
6. Bank users can create checking and/or savings accounts and can have as many as they want
7. The teller and ATM clients (local) need to be able to communicate to the bank server over TCP/IP
8. A bank account should not be able to be accessed in two different locations simultaneously (add a delay to check if there are simultaneous logins)
9. Accounts with a zero balance must be closed after a certain amount of time
10. There needs to be accounts created for bank employees to login as a teller