

## Object Design Document

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### Backend

The main entry point of the application is the bank manager within the bank. The customer entity acts as the primary class for the customer's data: pin and accounts. The abstract account class is extended to create the four account types: checking, savings, loans, and securities. The various account methods can be changed as needed for the account types. An AccountInterest interface was also added so savings and loans accounts can accrue interest. An AccountFactory helps generate accounts, which is generally used when customers create accounts.

### GUI

The initial JFrame is initiated in the StartUpPage.java file, and this JFrame is where all other GUI pages will be displayed. Within this file we have a CardLayout that contains the GUI pages for the login page, creating a new user page, bank owner/admin home page, and a regular user's home page. Each of these GUI pages is either a JPanel with a few JObjects in them or a JPanel that contains other GUI pages. The reason some of the JPanel's contain other GUI pages is to allow for reusability in the case we may want to create that JPanel in another JFrame instead of displaying it in the current JFrame. The regular user's home page (i.e. UserHomePage.java) contains multiple transaction GUI pages within it (Checkings, Savings, and Securities) which we then extract the JPannels from those GUI pages to add to a JTabbedPane that contains all the transaction pages. This JTabbedPane is then added onto another JTabbedPane that contains all the other options that the user has at their disposal. The reason for multiple JTabbedPanels is so that GUI pages with similar functionalities are within the same tab as to make a cleaner display. We then have a deposit GUI page and a withdraw GUI page where the user can select from which account they would like to deposit/withdraw to/from. There is also a transfer GUI page where one can input the user ID of another user and transfer money from a specific account into that user's account. The settings GUI page is where the user can select to either logout or close their account/login. Then there's the AddNewAccount GUI page where the user can select to open a new account. The BankManagerHome GUI page after login displays the user ID's of all the users in the system along with the current balances they have in their accounts. From here the bank owner/admin can select a specific user ID, and it will then take them to that user's UserHomePage from where they can select all the previous options I stated above. However, whenever the bank owner logs out or deletes the account from within the UserHomePage, they are then taken back to their BankManagerHomePage from where they can select another user.

### Database

