Logo

Description automatically generated

**Software Patterns**

**Refactoring Report**

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**Extract Method:**

I used the extract method in a number of cases because some of the methods contained too many lines of code.

**Move Method:**

I used this to move the ‘displayBalance()’ method to the bank account classes as the method contains only data from these and not from the main menu class.

**Decompose Conditional:**

I used this to decompose the complicated parts of the conditional method to search for the customer’s ID and password for the ‘logincustomer()’ method.

**Added variable static final long serial versionUID = 1L:**

The serialization runtime associates with each serializable class a version number, called a serial versionUID, which is used during deserialization to verify the sender and receiver of a serialized object have loaded classes for that object that are compatible with respect to serialization.

# Simplifying Method Calls:

I used multiple simplifying method calls to make them simpler and easier to understand. Including the following:

* Rename Method and Variables (customerAccount, cust, cust1)
* Add Parameter ( frame (JFrame frame) )
* Separate Query from Modifier (Search Customer)
* Replace error code with exception ( readFromFile() )

# Dispensable:

I performed the following actions on unneeded items whose absence would make the code cleaner, more efficient and easier to understand.

* Remove unused imports
* Remove and unnecessary comments
* Performed Extract method to treat duplicated code

# I also created an interface class (IMenu) that was then implemented by the Menu.class so that common methods could be reused and not duplicated.