

ASSIGNMENT A3

1. Objective

The objective of this assignment is to allow students to become familiar with the client-server architectural style and the Observer design pattern.

2. Application Description

Use Swing/C# API to design and implement a client-server application for the front desk employees of a bank. The application should have two types of users (a regular user represented by the front desk employee and an administrator user) which have to provide a username and a password in order to use the application.

The regular user can perform the following operations:

- Add/update/view client information (name, identity card number, personal numerical code, address, etc.).
- Create/update/delete/view client account (account information: identification number, type, amount of money, date of creation).
- Transfer money between accounts.
- Process utilities bills.

The administrator user can perform the following operations:

- CRUD on employees' information.
- Generate reports for a particular period containing the activities performed by an employee.

In addition, when a operation is performed by a regular user, the application should inform also the administrator by displaying a message.

3. Application Constraints

The application should be client-server and the data will be stored in a database or in xml files. Use the Observer design pattern for notifying the administrator when the regular users have performed an operation.

4. Requirements

- Create the analysis and design document (see the template).

- Implement and test the application.

5. Deliverables

- Analysis and design document.
- Implementation source files.

6. References

<http://java.sun.com/docs/books/tutorial/uiswing/>

<http://java.sun.com/j2se/1.4.2/docs/api/javax/swing/package-summary.html>

<http://www.exampledepot.com/egs/?>

<http://download.oracle.com/javase/tutorial/networking/sockets/index.html>

<http://msdn.microsoft.com/en-us/library/b6xa24z5.aspx>

[http://msdn.microsoft.com/en-us/library/54xbah2z\(VS.80\).aspx](http://msdn.microsoft.com/en-us/library/54xbah2z(VS.80).aspx)

[http://msdn.microsoft.com/en-us/library/e80y5yhx\(VS.80\).aspx](http://msdn.microsoft.com/en-us/library/e80y5yhx(VS.80).aspx)