

ASSIGNMENT A1

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1. Objective

The objective of this assignment is to allow students to become familiar with architectural patterns.

2. Application Description

Use JAVA/C# API to design and implement an 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.

3. Application Constraints

- The data will be stored in a database. Use the Layers architectural pattern to organize your application.
- All the inputs of the application will be validated against invalid data before submitting the data and saving it in the database.

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 sent via GitHub

6. References

Martin Fowler et. al, Patterns of Enterprise Application Architecture, Addison Wesley, 2003

<http://docs.oracle.com/javase/tutorial/uiswing/>

<http://docs.oracle.com/javase/tutorial/jdbc/basics/index.html>

[https://msdn.microsoft.com/en-us/library/54xbah2z\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/54xbah2z(v=vs.110).aspx)

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