

Department of Computer Science and Software Engineering
Concordia University
SOEN387

Assignment 2 Pattern Design and Implementation

General Requirements:

- 1) This is an individual assignment.**
- 2) Zip your project file(s) and the documents into one zip file. Submit the zip file to moodle.**
- 3) Implementation is in Java**
- 4) Delay penalty is 20% per day.**

Use the revenue recognition problem as the application to be developed (in Chapter 9, p112). The business logic of how to calculate the revenue recognition is not repeated here. Please implement the following three functions:

- 1) Query the content of a contract from the database;
- 2) Calculate the revenue recognitions of a contract, and store the results into the database;
- 3) Calculate the amount of revenue for a contract and before a date;

The application should be Web-based, ie. Using HTML page as UI. It should contain three layers: Web presentation, business/domain logic layer, data source layer. Detailed requirements:

- 1) In the Web presentation layer, the MVC model should be used. At least one controller pattern (pattern name ends with Controller) and one view pattern (pattern name ends with View) should be used. Proper HTML page should be designed, though cosmetics is not going to be evaluated.
- 2) In the business/domain logic layer, the pattern Domain Model and one more pattern in Chapter 9 should be used.
- 3) In the data source layer, at least one pattern from Chapter 10 should be used for database query.
- 4) The following issues should be considered. However, the implementation of these features can involve multiple patterns:
 - a. Delay the load of an object from the database until the data is used;
 - b. Check if an object is in memory before querying the database;
 - c. Maintain the modification status of an object, i.e. easy to tell if an object is modified when it is time to write it back into the database;
 - d. Maintain consistent of data when multiple users use the system concurrently.

Additional remarks:

- 1) This is one application. You should not program the patterns in different projects.
- 2) You can start with some sample code posted in moodle.
- 3) Your submission should include 1) the source code, including all the java classes, jsp pages, and the other files needed for running your application; 2) war file for deployment; 3) a simple doc file to explain what patterns you used, better with a table of the source file name and the pattern used in the file. 4) a readme file to explain how to install and run your implementation;