BIT 3444
Term Project – Deliverable #2

Deliverable Objectives

By accomplishing this deliverable, the student will be able to

- Construct an object model for a DSS
- Integrate a database into a VS.NET application
- Work effectively with a system-development team

Deliverable Requirements – for the project that you have chosen

1. Create an object-oriented design for the DSS.
   a. Define the classes that comprise your project.
      i. Use the design of the spreadsheet of the first deliverable to get started. Think of how to define decision variables, performance measures and parameters as objects.
      ii. Add any other classes that might be needed for User interface, data and data processing prior to and after optimization of the model.
   b. For each class define the class properties, methods and events.
   c. Implement inheritance relations with the Class Diagram feature in Visual Studio.
   d. Implement aggregation and composition relations among the classes with the necessary code within constructors and destructors.

   (10 points)
2. Create a MS Access database.
   a. Import the tables from the Excel file of the first deliverable into the Access Database.
   b. Build a table in MS Access in which you can keep username and password information.
   c. Add any other tables that will be useful in acquiring and storing data for estimating model parameters.
   d. Add any other tables that will be necessary for other data that will be used by your project's methods.
   e. Enter table relations as necessary into the Access file.

   (8 points)

3. Create a class called Database in your project. Use this class to import all the data needed for your project.
   a. Define the class properties, methods and events.
   b. Use DataReader and a DataSet to access your tables.
   c. Enter code to connect your project to the MS Access database.
   d. Enter code to transfer the data that your DSS requires from the MS Access Database to tables in your project.
   e. Enter code to transfer the data in your tables to properties of objects.
   f. Use a DataAdapter and DataSet object to search through the existing usernames and passwords against what the user enters.

   (20 Points)

4. Code structure.
   a. Insert comments at the top of each class, sub and function that describe the purpose and operation of that class or member.
   b. Insert comments before each segment of code such as a nested group of If…Then statements, Select Case… End Select, etc.

c. Insert comments next to each field or property that describe the units of measure or the role of that field or property in the DSS.
d. Make sure to list all dependencies for a class (i.e. other classes called) in the comments, and all dependencies for subs and function (i.e. other subs and functions called within the same class).
e. There should be no constants or literals in the code!

(10 points)

5. Performance. The main purpose of this deliverable is system design, not system performance. ***You may not be able to write and debug all of the code***, but all of the structural elements of the system defined in 1-4 above should be present in the project.

Submission Instructions

1. Upload the .zip file of your application to your Team's file box. You can gain access to this file box by first visiting your Team's Homepage.