LaSalle College
Montréal

Course Number : 420-DA3-AS
Course Title : Multi-tier Applications Development
Session : Autumn 2019
Group Number : 7444
Teacher : Quang Hoang Cao

Final Project

Evaluation Weight: 30 % (out of the total mark for the course)
Due Date: **November 26, 2019**

Case Study

Company

Hi-Tech Distribution Inc.
7122 18th Avenue
Montreal, Quebec
H2A2M8
Tel: (514) 721-8662
 Fax: (514) 777-8665

Hi-Tech Distribution Inc. is supplying computer science books to nearly all the colleges and universities in Quebec. You are required to design and implement a Windows application called **Hi-Tech Order Management System** using Microsoft Visual Studio 2017 and SQL Server 2017/2014.

Hi-Tech's business rules include the following:

1. Each book record should contain the fields: ISBN, Title, UnitPrice, YearPublished and QOH (quantity on hand). Each book must be categorized.

2. More than one author can write each book and each author may participate in writing more than one book. Each book can be published by only one publisher.

3. Each author record should contain the following pieces of information such as authorID (for identification in case authors have the same name), first name, last name and email).

4. **Hi-Tech** has received computer science books from different publishers (suppliers): Premier Press, Wrox, Murach, Prentice Hall and more.

5. **Hi-Tech's** customers are Colleges and Universities in Quebec.
   A customer's information should include name, street, city, postal code, phone number, fax number and credit limit.

6. Order clerks can take customers 'orders (by Phone, Fax, or Email) and order payments will be made by direct withdrawal from the college/university's bank account as specified in the contract between **Hi-Tech** and the customer.

7. At present, **Hi-Tech** has two order clerks who are responsible for taking the customers' orders.

Users and Operations

Users	Operations	Technical Requirements
MIS Manager **(Henry Brown)**	• *Add/update/delete user information* • *Search/List user information* • *Add/update/delete employee information* • *Search/list employee information*	**Database Programming with ADO.NET in Connected Mode**
Sales Manager **(Thomas Moore)**	• *Add/Update/Delete customer information* • *Search/List customer information*	**Database Programming with ADO.NET in Disconnected Mode**
Inventory Controller **(Peter Wang)**	• *Add/update/delete/search/list book information and related information*	**Your choice**
Order Clerks - **Mary Brown** - **Jennifer Bouchard**	• *Add/Update/Cancel customers' orders* • *Search/List customers' orders*	**Using the Entity Framework**
Accountant **(Kim Hoa Nguyen)**	• *View customers' invoices* • *Print out customers 'invoices to be sent to customers*	**Your choice**

Security

To access the system, each user is required to enter his/her valid username and password. The user can change the password when necessary.

Evaluation Scheme

Certainly, your application must satisfy all the requirements specified in the project. Pay attention to the following evaluation criteria.

Evaluation Criteria	Requirements	Weight
1. Data validation	*Be sure no invalid data has been entered into the system*	**10**
2. Database Design	▪ *Consistent in naming conventions* ▪ *No data redundancy* ▪ *Proper relationships among the tables* ▪ *Complete implementation of the project's requirements* ▪ *Hints: Follow the techniques I presented in class*	**30**
3. Source Code	▪ *Useful comments* ▪ *Application of all the object-oriented concepts* ▪ *Application of three-tiered model* ▪ *Complete implementation of the project's requirements* ▪ *Hints: Follow the techniques I presented in class*	**35**
4. Interface Design	▪ *Easy navigation* ▪ *Clear instructions* ▪ *No spelling mistakes* ▪ *Using colors, font sizes and font styles with purpose* ▪ *Elegant error messages* ▪ *Complete implementation of the project's requirements* ▪ *Hints: Follow the techniques I presented in class*	**15**

5. Project Documentation	▪ In a Microsoft Word File	10

Total   **100**

Project Documentation

The project document must include the following:

1. Project Description
2. Project Design
    -   Database Design
    -   Design of Application Domain Classes
          Class Diagram
    -   Design of GUI Classes
    -   Design of Data Access Classes

3. Project Implementation
4. Project Testing
5. Project Deployment (Optional)
6. Conclusion

Project Group
Maximum number of students in the group: **2**

IMPORTANT NOTES

➢ You should set up your own schedule to do the project. Do not wait until the last minute.
➢ If you are a team member in the group, you have to submit your own report specifying clearly what you have done for the group. Evaluation will be based on
  your contribution to the project.
➢ **No late submission is accepted**.
➢ Project Demo and Submission : **November 26, 2019**