Course Project: An Online Enterprise Information System

COP 4710 Term Project

Due: 11:59pm, April 29, 2020

1 Introduction

In this project, you are expected to design and develop an online enterprise management system with nontrivial functionality. You can choose whatever enterprise you want to simulate, and we tend not to provide detailed specifications. However, as a guideline for grading, your system should:

- be backed by a commercial or open source DBMS such as Oracle, PostgreSql or MySQL;
- have a text-based or web-based interface to interact with a human user, which must have at least three different appearances (or web pages);
- be written in a general programming language (Java, C, etc.), using JDBC/ODBC (or other communication protocols) to connect to the database and send in queries;
- have a minimum of at least three relations, all of which have some data (you need to either make up some data or borrow data from other sources with permission from the data owner); and
- use at least eight different types of queries (in terms of SQL statements), some of which must be able to modify the contents of your database;

Meeting all of the above features will guarantee you a high B grade (i.e., $> 80\%$ of total points) in the project, assuming you do a good job in the demo and the reports. To get a higher grade, you can implement the following extra functionality:

- create users for your system, with user ID and password;
- create views for your database and assign different privileges to different users;
- use stored procedures/functions to process application logic on the database side;
- use client-side scripts (e.g., JavaScript) to process application logic; and
- any other features that are relevant to the system.

2 Getting Started

Reading the design and relevant code of a sample system will be a good way to get started. Links to two sample systems have been attached to this assignment on Canvas. The first is an online bookshop system implemented using JSP, while the second (from Connolly and Begg) is a course registration system.

3 Environment

In this project, you get to choose the platform to work on. The most successful demonstrations from previous years were done in standalone machines (e.g., a laptop) where students installed their own DBMS and application servers. I suggest you follow that strategy so that you are not vulnerable to all kinds of problems caused by sharing a server with other (sometimes inexperienced) users.

4 Deliverables and Grading

By 11:59pm on April 3, you should submit a mini-report (in PDF format) with your conceptual design of the information system you are building. In this report, you should use an ER diagram to explain your design, and put all entity sets, relationship sets, as well as their attributes, relevant and reasonable constraints into the diagram. You should also submit a peer evaluation of your group members. This peer eval will be posted as a separate assignment on Canvas.

By 11:59pm on April 17, you are required to submit a short PDF report that shows you have implemented an initial version of all three tiers (i.e., interface, application logic, and database) of the proposed system design. The functionality implemented for each tier, however, can be of the simplest form when this report is due. To convince us that the system is in a working status, you can show some screenshots or attach chunks of your code into the report (or both). You should also submit a peer evaluation for this part of the project.

The final project will be due at 11:59pm on April 29. By the project due date, you are required to show the functionality of your system in a 10-minute demonstration. You also need to finish a report describing your design and the main functionality. You are encouraged to copy and paste sample code into the report to explain your implementation. A link to a sample report for the online bookstore example is posted on the Canvas assignment. We also need you to submit all code (JSP, HTML, Java, procedures, SQL statements etc.) you wrote for this project. You should submit a compressed file named `final-DB-project.tar` or `final-DB-project.zip`. This archive should contain your final report (in PDF format), as well as all the code files (in a folder). One submission is sufficient for each group. Lastly, you should submit an overall peer evaluation for the project.

A demonstration of your system will be scheduled during the week before the final deadline. The exact date of the demo will be announced later.

The project is worth 25 percent of your overall grade in the class. The first report will be worth 3 percent, the second 1 percent, and the final report 3 percent. In addition, the 3 peer evaluations will be 1 percent each. **Important:** even though the submitting the peer evaluation is not a substantial portion of the overall grade, your project grade will suffer if you are not contributing equally to your group's solution. The rest of the project will be graded based on the functionality implemented (10%), and the demo quality (5%).

5 Other Issues

- This project is intended to be done in 3-person groups. If you choose to work by yourself or form 2-person groups, you are expected to do the same amount of work as others. If you have trouble finding partners or if you wish to be assigned to a group, please let Dr. Hendrix know ASAP.
- Copying code from the Internet or other sources without an explicit acknowledgment is considered plagiarism.
- Self-sign-up has been enabled for the project groups on Canvas (COP 4710 course project groups). Once you find your partners, pick an empty group (#1-19) and sign up.
- More clarifications or details on this project may be posted as time goes on, but do NOT wait to start working on this. Start NOW by talking to fellow students to form a group!