Semester Project Phase 4

Due: Thursday, December 12th, 2024

Total: 30 Points

Project Overview

The Semester project consists of four deliverables reflective of the implementation of a real-world database. Each of these deliverables will build upon each other to create a comprehensive database system that includes a requirements document, a design document, a schema implementation script, and finally a graphical user interface with simple CRUD Operations.

Since each project phase will depend upon each other, as it is in the real world, you will need to do each in the order specified below. The weight of each phase is as follows:

Phase	Description	Due Date	Points
1	Project Scope and Requirements Document	Oct 3rdth	20
2	Entity Relationship Diagram and Schema Specifications	Oct 17th	20
3	Database Creation and Seed Scripts	Nov 14h	30
4	Java GUI Application	Dec 12th	30
	Total		100

The due dates are subject to change depending on the progress of the class. However, once it is determined, there are no exceptions for late work. See the class policy of late for details. You are expected to submit each phase on its due date to receive full credit for that phase. There is no make-up work for each phase. Since the later phases of the project depends upon the earlier phases, it is in your best interest to complete the phases by the expected date. Every student is expected to work on this project independently and every project is expected to be unique in terms of the organization you choose to use, as well as the design you choose to implement for it. The project will close with a presentation of your GUI implementation on the due date of the last phase, April 26th.

Phase 4

Most user interactions with a database system involves a graphical user interface. In this part of the project you will be building a JAVA Swing Application to provide that interface for the user. You will be using the following as a guideline for your graphical user interface (GUI).

Database Requirement

You will be using the database from Phase 3 of this project for your implementation. As such, you must refine that phase's creation script so that it can be executed properly if it did not previously. Failure to have a properly working database at this point will reflect poorly on the overall grade of this phase. You must include the creation script in your submission regardless of whether you made any changes to it or not.

Table Selection

You will be selecting 3 tables from your database to implement the gui for. The tables must meet the following criteria.

1. At least one table must have one or more foreign key relationships
2. A second table must be part of the relationship of the first
3. The last table can be any table you want

GUI Implementation

For each database table, a JFrame must be created with all the necessary input for each table attribute on the screen, except the primary keys, which should be non-editable on the UI. Each screen will provide the ability to insert, delete, or update the selected database row from the database as demonstrated in your assignment 5.

The GUI for each data table must run without errors or points will be deducted for said errors. Failure to launch a JFrame will result in all points being deducted for that Jframe. Errors in each Jframe will be deducted from that frame. There will also be a grade for overall performance of the entire gui.

The Launcher

The application will have a launcher which will open the windows of each gui. This will be the launch application. It will consist of 3 buttons, with each having an event listener that launches the JFrame for each data table. Each button shall be labeled with the respective Jframe that it will launch. You can launch a JFrame with the following code, given that you have JFrame called frame:

```
frame.setVisible(true);
```

Presentation

You will be required to demonstrate your project on the due date. Presentations are worth 2 points, which will make a difference since it's about 5% of the over all grade.

Criteria	Description	Points
1	Launcher	4
2	Database Table GUI 1	7
3	Database Table GUI 2	7
4	Database Table GUI 3	7
5	Database creation scripts	3
6	**Presentation**	2
	Total	30

Submission

You will be required to present you project on the due date. The entire Java Project including all code, including the data base creation scripts must be zipped into an archive and submitted into the Project

Phase 4 Group Assignment on D2L. Please note that the submission is time stamped, so submissions after the due date and time will be counted as late and penalties will be applied respectively. Only one person needs to submit the project.

Keep in mind the following:

- **The project must build and execute with minimal configuration changes or you will receive a zero for this phase. If configurations need to be made, make sure you include explanations on how to run the application. This must be tested and proven to work before the submission.**
- **Submissions with any other language than JAVA as indicated above will not be accepted and you will receive a zero for the project.**
- **Any group projects that are 90% similar to each other will both be given a zero for plagiarism. This should not happen since you all have different scopes and definitions to your projects.**

Assessment

All points will be assessed based on the criteria mentioned above. You can earn a total of 30 points.

Learning Outcomes

This phase is designed to introduce the student to the final phase in database design and implementation. This is the GUI phase in which the student will create a database, seed it with business and test data and create queries based on their phase one analysis and finally create a GUI to interact with the database. This phase utilizes JAVA SWING as a presentation layer to interface with the user and introduces the student to event driven programming, one of the cornerstones of application development.

Disclaimer

Please review the syllabus on academic integrity and the submission policy. I will follow both strictly, so please adhere to the policy for each assignment and project.