CPSC 408
Database Management
Fall 2021
Final Project Outline

Overview

For the final project you will push your programming and database abilities to the limit by implementing a database application of your liking. The end-product will be a highly polished and well thought out application that will include both a database and front-end UI component. In a nutshell, your application will allow an end-user to insert, delete, update, query data (CRUD) and generate reports.

While I am providing you with a general outline for the project, many of the implementation
details will be up to you. It will be your responsibility to research the techniques and best practices for developing an application/database of this scope.

Project Details

The UI can be developed in the framework of your choosing (i.e., web, .net, java, python etc.), however the backend database must be MySQL.

The final project must incorporate at a minimum the following requirements:

- Print/display records from your database/tables.
- Query for data/results with various parameters/filters
- Create a new record
- Delete records (soft delete function would be ideal)
- Update records
- Make use of transactions (commit & rollback)
- Generate reports that can be exported (excel or csv format)
- One query must perform an aggregation/group-by clause
- One query must contain a sub-query.
- Two queries must involve joins across at least 3 tables
- Enforce referential integrality (PK/FK Constraints)
- Include Database Views, Indexes
- Use at least 5 entities

Deliverables:

Final Report: You will prepare a final project write-up 4-6 pages in length (12 pt. font, 1-inch margins, double spaced). Your report should introduce the problem your project is

wishing to address, describe related applications/work in the area (if any), discuss the elements of your solution (i.e., framework, algorithms etc.), and present results, and the schema diagrams of your final project.

Presentation: The presentation (power point) will be between 10-15 minutes (essentially a condensed version of your final report). You are restricted to 4 slides only (excluding title page).

The presentation will contain the following:
1. Problem/Issue you are trying to resolve
2. Your solution to the problem
3. Schema diagram
4. Demonstration (not an actual slide)

Do not treat the report/slides as an afterthought. Please give yourself ample time to do the write up and make sure you proofread and edit carefully!

Source Code:
All source code should be commented and designed following best practices. All files (source, code, write up, slides) must be submitted by the last day of the semester, December 18th, 2021.