CS 5/7330 Group Project

Spring 2025

Instruction

The goal of the group project is to implement a database solution to the following application, using mySQL as the backend. This handout contains information about the various requirements. The actual project will be available in a separate handout.

Project Implementation

You will be given an application that requires a database backend, and a GUI frontend. You are required to use either mySQL or MariaDB as the backend. (SqlLite is not allowed). You only need to host the database locally on your own machine. Your program should read the username/password/database name from a file that is to be included in the submission (You can name them whatever you want).

You are free to choose how to program all the functionalities, but you should provide a standalone program to do the task. Under no circumstances should the user need/be allowed to directly enter the database by the standard database GUI.

Your program should provide a (very basic) GUI for users to enter data and queries. You can leverage a web browser to do it if you so wish (and use a web framework for it).

You are free to choose your language to implement your program, and whatever tool you need to help develop the GUI. However, all the tools you use must be freely available (free trial is NOT allowed)

Evaluation

Evaluation is done in 4 parts:

- Group check-in (4 points). There are two group check-ins (3/14, 4/14). The goal is to ensure that members of the group are communicating, and members are reasonably happy with how the group is progressing. Each check-in consists of one survey question. You will get 2 points for each check-in by answering that question -- whether you answer yes or no.

- Database design (21 points) each group should submit a ER-diagram for its database design, together with the database schema by 4/4 (Fri) 11:59pm. I will give each group feedback by 4/9 (Wed). This is worth 21 points. (BTW, you can change your design even if I give you the green light). (each group should submit a PDF file containing the information).
  Notice that if you submit the PDF by 4/1 (Tue), I will grade that with feedback by 4/4 (Fri), and you will get a 20% increase of your database design score.

- Implementation and demo (60 points). Each group will need to schedule a 30-minute time slot on between 5/5 – 5/7 for a demo. (The Monday morning/afternoon slots will be in person, others are via zoom). The time slot available are as follows:
  - 5/5 (Mon): 9:30am – 11:30 am (4 slots), 12:30pm – 3:00pm (5 slots), 8:00pm – 10:00pm (4 slots) (There will be no class on 5/5)
  - 5/6 (Tue): 9:30 am – 12:00pm (5 slots),

- 5/7 (Wed): 9:30 am – 12:00pm (5 slots), 1:30pm – 3:30pm (4 slots)

I will publish a rubric to give you a sense of how I will evaluate your work.

You will be given a rough range of your score (out of 60). If your group's expected score is 45 or less, you have the option to do a second-chance demo on 5/9 (Fri) [10:30am – 12:30pm] via zoom. Each group will have a maximum of one 10-minute slot to show that they can earn points that they have lost earlier. Notice that groups that demo early will have the first choice of time slots for second chance demos. There will not be enough slots for every group. Notice for groups that do a second chance demo, the maximum score will be 45 (out of 60)

Even though you will have to submit your project, and I may run your program to verify certain aspects of it, the implementation grade will be based on the demos.

I expect every member to be present at the first demo. I would expect at least 2 members to be present at the second-chance demo.

- Final report (15 points). You should upload your final report as a zip file by noon 5/12 (Mon), 11:59pm. Your report should contain:
  - The source code for your program.
  - A written report that contains the following:
    - The updated database schema, with comments on what each table represents (you can use the CREATE TABLE statements to describe the schema)
    - A brief installation/user manual to instruct someone (assume he/she is a junior CS student, but hasn't taken database yet) how to install and use the program

Conflict Resolution

In case of conflict within group members (for example, uneven workload), each case would be looked at individually, but here are a few guidelines.

- The second check-in is your "last" chance to express problems within the group.

- If there is at least one member that expresses problem during the second group check-in, I will set up a meeting for the whole group (most likely via zoom) on 11/19 or 11/20. Every member of the group must be present. We will try to resolve differences. However, I am open to the possibility of breaking groups (e.g. some student think others are not putting in the weight) However, since we are at the maximum capacity of groups, the groups that is broken up might have less priority in terms of scheduling for demo etc.

- If the group is happy after the response of the second check-in, I will assume the group has been working fine and all students will get very similar grades. If you feel like there is a significant discrepancy in terms of effort, you can still let me know, but I will not break the group up, even though I may test each of the group members individually.

The ability to work together is part of the assessment for the project

Propose your own project

I am open to you to propose a separate project, but any such proposal must satisfy the following conditions:

- There must be a real-life application for the project
- There must be someone else (not be another student) that can serve as the client that I can communicate with. He/She will be involved in the grading.
- The scope of the project should be like the one I propose

Contact me before 3/14 (Fri) 11:59pm if you want to do that.