READ: Description of the Project Proposal

PROJECT PROPOSAL FOR CS 5200

Students are expected to define a project which satisfies all of the following criteria.

- The project must be able to create, read, update and delete data from the chosen database. The executed operations should be driven from user input.
- The user interface for the project may be a simple command line argument project, a web page or a graphical user interface (GUI) based project. The user interface provides the access to the database and determines the operations that are executed on the data. It determines the functionality of the project provided to the user.
- The basic assumption is that your project will use MySQL as your DBMS. If you plan to use a NoSQL database or a different relational database you must specify which database you are using in this proposal. We will work with you to define a corresponding grading rubric for your project. The teaching team will need to approve your NoSQL database choice. Note: you must receive an 88 on the Conceptual design exam (exam 1) and the SQL SELECT exam (exam 2) to use a NoSQL database for your project
- The project must demonstrate your mastery of the chosen database model (relational, document, key value, columnar etc.)
- The final result is an application that demonstrates your ability to code a system using a database as its storage mechanism as well as your ability to document the system.

The project will consist of the following tasks:

1. A project proposal (10 points)
2. Database schema as well as database programming objects - the database should be in 3rd normal form Create data schema, export of database (schema, data, functions, procedures, triggers) (30 points)
3. A video describing and demonstrating your CRUD operations (10 points)
4. A client application that accesses the database and performs all four CRUD operations (create tuples, read tuples, update tuples, delete tuples) (40 points)
5. Final report containing the final conceptual design, logical design, user flow diagram, lessons learned and future work (10 points)

Each task listed above must be completed for the project to be accepted and granted a grade. **The project accounts for 100 points and is 20% of your final grade.** A total of 5 bonus points can be accrued during the completion of the project. For most students, the project is an opportunity to build a database system for a data domain they are interested in.

Task 1: Propose a database & an application (10 Points)

The goal of the project is to allow you to get hands-on experience with a database that is of interest to you. This is the part of the class curriculum that you design.

Submit a project proposal with the following information:

- Your group name as well as the members of the Canvas group.
- A top level description of the project. Briefly describe the functionality your application will provide to the user.
- A top level description of the data to be stored in the database. Make sure you describe the entities, attributes, relationships and the multiplicity constraints. Your textual description must be in agreement with the provided conceptual design.
- SQL vs. NO SQL storage
- Software, Apps, Languages, Libraries and hardware that will be used to develop the project. Are there any machine restrictions for the project?
- Why does this project or this data domain interest you?
- A UML diagram of the **conceptual design** for the database which you will be using for the project. This diagram should contain attributes, entities, relationships, multiplicity, and the primary keys for the entities. You can use any diagramming tool you prefer. One that is freely available is **https://creately.com/** (https://creately.com/) as well as lucid charts. You should plan on using this diagram during your class project presentation as well as in your final project write-up (where it will be graded more strictly and worth more points)
- A brief step by step user interaction of your application. The description should list the steps a user would require to perform in order to use your application. A flow chart is sufficient. For students who know what an activity diagram is, please include an activity diagram INSTEAD OF the steps mentioned above.

If you wish to learn about an activity diagram, here is one good link to read

http://www.sparxsystems.com/resources/uml2_tutorial/uml2_activitydiagram.html (http://www.sparxsystems.com/resources/uml2_tutorial/uml2_activitydiagram.html)

Here is a link of an activity diagram for an order delivery system:

http://www.c-jump.com/CIS75/Week10/images/activity_process_order.png (http://www.c-jump.com/CIS75/Week10/images/activity_process_order.png)

Please create one cohesive document that contains all of the above listed deliverables. Remember this is a writing exercise, please make every effort to submit a well written proposal. **A zip file with each of the individual pieces is not appropriate.**