Project: Tiered Database Application
CSE-111-01 **Points: 300**

Project Requirements

In this project your team will design and implement a tiered data management application consisting of an interface for interacting with the user and a back-end database for storing and retrieving the data. The user should have the capability to visualize the data in the database, add new data, delete, and update existing data. Extracting statistics and reports from the database is a feature that you should also consider.

You have freedom in designing and implementing the user-interface and in choosing the back-end database. This is a team project. Each team consists of two members. You can choose your team. NOTE: If choosing a partner from another lab section, make sure that you are able to attend the lab session of your partner during phase-evaluations, or vice versa.

Checkpoints

This is a semester-long project. There will be four checkpoints, spread over the entire semester, as follows:

1. **Phase 0 – Team and Topic [R 12-SEP]:** Determine the teams and choose the project topic. You have to provide a brief description of what you plan to develop. If you have problems finding a topic, you will be assigned one by the instructor.
2. **Phase 1 – Design and Specifications [Su 27-OCT]:** Determine the project requirements and write the specification. Design the database layer. You are required to provide the use case specification as UML diagrams, the database design as E/R diagrams, the conversion from the E/R diagrams to relations, and the database SQL schema.
3. **Phase 2 – Database Implementation [Su 24-NOV]:** Implement the database layer. By this time, you should be done with writing queries/updates/views in SQL. Design the user interface and provide a prototype of the entire system.
4. **Phase 3 – Completed System [F 13-DEC]:** The system is completely implemented, optimized, and tested. You are required to give a presentation/demo of your work and to hand-in a report of the project containing the design documents.

Evaluation

You will be evaluated for each part of the project separately. The importance of each part in the overall project score is as follows:

- 25% (75 points) for Phase 1
- 25% (75 points) for Phase 2
- 50% (150 points) for Phase 3

Project Examples

Some examples of project topics used in previous semesters are:

- Media collection
- Library book management
- Exploration game
- Astronomical database
- Car dealership
- Basketball statistics
- Social network
- Warehouse management
- Work issue tracking
- Virtual Pantry
- Artist work collection