Information and Computer Science Department
ICS 324 – Database Systems
Project

Objectives

The objective of this project is to develop a complete data-centric application.

Outcomes

After completing this project, students will master:

- Analyzing the System Requirement
- Representing the requirements using Enhanced Entity Relationship (EER) model
- Mapping the designed model into relational schema
- Writing SQL statements
  - Creating the tables including all applied integrity constraints
  - Populating the tables with sample records.
- Developing user interface for the system
- Writing a report about the system
- Presenting your work

Project Groups

Create groups of three students by April 8, 2018.

Project Description:

Instructors frequently need to write a recommendation letters to their students. It hard for an instructor to find details of the courses taught to the recommended student. Develop a database system to help the instructors in recommendations. The data requirements are summarized as follows:

- Students are identified by a unique student id, their first and last names, and a major.
- The instructor teaches certain courses each term. The courses are uniquely identified by a course number, a section number, and the term in which they are taught. The instructor also assigns grade cutoffs for letter grades for each course he teaches.
- Students are enrolled in courses taught by the instructor.
- Each course being taught by the instructor has a number of grading components (such as mid-term, final exam, project, etc.). Each grading component has a maximum number of points (such as 100 or 50) and a weight (such as 20% or 10%). The weights of all the grading components of a course usually add up to 100.
- Finally, the instructor records the points earned by each student in each of the grading components in each of the courses. For example, student with id=201112340 earns 84 points for the grading component mid-term for the course ICS324 section 2 in the 142 term. The mid-term grading component may have been defined to have a maximum of 100 points and a weight of 20% of the course grade.

Project Deliverable Phases:

Phase I: Conceptual Design (ER/EER model)

Develop a conceptual model (ER/EER diagram) for the given problem. The report should have the following sections:

1. Problem Statement
2. Database Requirements (defines the entities, attributes, relationships and constraints).
3. ER/EER Model

Phase II: Logical/Physical Design and Back End Implementation

Map the conceptual model developed in phase I into a logical schema using the relational model. Then implement resulting schema. Add the following sections to the report:

4. Relational schema (all relations and constraints)
5. DDL statements to create database tables

Phase III: User Interface (Front-end) Implementation

Develop the front-end using java or any other language. Add the following sections to the report:

6. Tools and languages used
7. The user manual
8. Conclusion
9. Distribution of work (who did what)

Presentations:

Each group should prepare a power point presentation about their project and make a demo of the system.

Grading & Work Schedule:

Task	Due Date	Weight
Team Formation	April 8, 2018	5%
Phase I	April 15, 2018	25%
Phase II	April 22, 2018	10%
Phase III	April 29, 2018	40%
Presentation & Demo	May 2, 2018	25%