CPSC 332 File Structures and Database Systems

Spring 2020 Term Project
©Dr. Shawn X. Wang [1]
Due: May 13, the same day of the final exam

The Team Project:
The project is to be completed in groups. Each group has three students. The project will use MySQL database and PHP to build a web database application. Please visit the TITANium class website and click on "Check Your Grades" to see the account and password assigned to you.

Here are what you need to turn in (in hard-copy):
A hard copy of the project report that includes the following items. Turn this in on the same day of the final examination.
1. A cover page listing the team member information (the names and last 4 digit of campus ID) and the account that has the project implementation. Since there are three members each with a different account, your team needs only to upload the project implementation into one account.
2. The ER diagram of your design (similar to homework #1).
3. The corresponding relational model with primary keys and foreign keys clearly specified (cf. Fig. 9.2 on page 291, similar to homework #2).
4. The source code of the project, including the DDL that you used to create the tables and the SQL that you used to implement the queries, as well as the PHP scripts that you used to implement the user interface.
5. The screenshots of the interfaces you developed.
6. The screenshots of sample runs of the system, including inputs and outputs.

The project should be uploaded in one of the accounts that are given to you on the department server. Only projects that are completed and tested on the server will receive full credits. If the implementation can not be tested you will receive at most 80% of the credits.

Please find the Project Descriptions on the second page.

---

[1] This document is to be used only by the students who are taking the CPSC332-01 and CPSC332-03 in Spring 2020. Do not distribute to anyone else.

Project Descriptions:

You are asked to design a database for a university that satisfies the following requirements:

1. The database keeps information of each professor, including the social security number, name, address, telephone number, sex, title, salary, and college degrees. The address includes street address, city, state, and zip code. The telephone number includes the area code and 7 digit number.

2. Each department has a unique number, name, telephone, office location, and a chairperson who is a professor.

3. Each course has a unique number, title, textbook, units. Each course also has a set of prerequisite courses. Each course is offered by a department.

4. Each course may have several sections. Each section has a section number that is unique within the course, a classroom, a number of seats, meeting days, a beginning time, an ending time. Each section is taught by a professor.

5. The database keeps student records, including the campus wide ID, name, address, and telephone number. Each student majors in one department and may minor in several departments. The name includes first name and last name.

6. The database keeps enrollment records. Each record has a student, a course section, and a grade.

Design your database and create at least the following numbers of records:

8 students	2 departments	3 professors
4 courses	6 sections	20 enrollment records

You should provide interfaces for the following individuals:

For the professors:

a. Given the social security number of a professor, list the titles, classrooms, meeting days and time of his/her classes.

b. Given a course number and a section number, count how many students get each distinct grade, i.e. 'A', 'A-', 'B+', 'B', 'B-', etc.

For the students:

a. Given a course number list the sections of the course, including the classrooms, the meeting days and time, and the number of students enrolled in each section.

b. Given the campus wide ID of a student, list all courses the student took and the grades.