

Course Project

CSC 675/775

The goal of the course project is to practice database concepts in a realistic context.

- The project can be done in groups of 3 or 4 students.
- It has 2 Phases. You will submit a report for each phase.
- You need to submit a design report and an implementation report by email.

Tasks and schedules of phase1

Task1: Select a topic/dataset

- Do the Requirement Analysis

Task2: Conceptual Design

- Design a conceptual model; build ER diagram and related data logic.
 - Your database should include at least 4 entities and 3 relationships

Task3: Logical Design

- Translating the conceptual model into a relational schema

Task4: Design report

- Design report must include:
 - Name of group members,
 - A brief description of your database and data requirements
 - ER diagram, and
 - Logical schemas.
- Design report will due on March 26.

Tasks and schedules of phase2

Task1: Create Tables, indexes and constraints.

- At least 2 indexes (hash-based or tree-based)

Task2: Collect and import data. You can collect data manually or import data from any available online data repository.

Task3: Write SQL Queries

- At least 2 queries involving GROUP BY, HAVING, and aggregate operators.
- At least 2 nested queries involving IN, EXIST, op ANY, op ALL...

Task4: Final report

- For your final report you should submit a PDF file including:
 - All CREATE TABLE, INDEX, VIEW statements, as well as SELECT queries.
 - The snapshot of the results of your SELECT queries. If the results of your select queries are large just include part of the results.
 - Final report will due on April 30.

Task5: Project presentation and demos

- You will present your project during the last session of class.
- Your presentation should include:
 - Some presentation slides describing your design and implementation.
 - A demo of executing your SQL queries, including aggregate queries and nested queries.
- Any front-end client interface (e.g., a Web or mobile interface) is not required for this course project, but such a front-end application can be interesting and can be considered as a bonus.
- You can use any database system, including SQLite, MySQL, PostgreSQL, ORACLE, Microsoft SQL Server, ... for your implementations.