CSE572 Group Project specification, Winter 2019

Project Overview

You will be assigned to a group with the maximum of four members for project works. A project will be of each group's own specification and design, drawn from one of these broad areas:

- **Experience portfolios**, which can include experiential records along different thematic lines, as diverse as travel to formal coursework, informal learning accomplishments (e.g., open, online courses), volunteer/work/internship experience, resume, and samples of notable projects;
- **Health records**, which can range from personal health records to institutional health records, which can include health-related behavior tracking (e.g., exercise, meals), perhaps special readings (e.g., blood glucose, blood pressure), medication schedules, and physician visits;
- **Entertainment and Leisure**, which can be in areas of music, movies, gaming, art, and athletics, with records on stated and unstated preferences (e.g., through viewing, purchasing, playing, and other analog behaviors that are appropriate to the domain);
- **Sustainability and Ecology**, which can range from wildlife monitoring applications, backpacking, tree tours, public and private transportation (e.g., ride-sharing and routing), and recycling (but should probably avoid energy and water monitoring as we deal with this in one of our sample projects, unless you can imagine creative ways of expanding this theme, such as through social networking).

The focus of your database specifications can be on individual-level data, on institutional-level data, on regional/national/world level data, or some span of these granular levels. ***Importantly, however, I want each project to include some "social networking" component.*** Social networking can be overt social links, like "friend" or "following", and/or "hidden" links, such as those that we can imagine are used in recommender systems.

The project is implemented in four phases. In phase 1 your team should submit topic selection and write-up at the end of second week. In your submission, it includes overview of your project, basic operations and functions, information requirements and scope of the project. Phase 2 is conceptual design; your team will submit the conceptual design at the end of day of the 6th meeting. The relation model is due on the 10th meeting. At the 16th meeting, your team should have DDL and DML statements implemented and submitted.

Each group submits ONE Project PDF document, which includes a functional specification, conceptual design (possibly revised); followed by relational model and one ERD in UML (probably revised); followed by CREATE TABLE, CREATE TRIGGER, CREATE VIEW, and CREATE ASSERTION definitions; followed by SQL queries.

- For the functional specifications follow the guidelines promulgated earlier. An opening paragraph should be an overview of what the database is intended to support, with bullet items that follow on main categories of function. The functional specification focuses on

what the DB is to support — it is NOT an English description of the DB itself — we have the UML for that.

- UML diagrams cannot be hand-drawn but should be done in PowerPoint (or similar tool that can be used to produce UML consistent with the class UML conventions).
- The table and assertion definitions must be neat (no random line breaks), with comments as appropriate. The table and assertion definitions should logically implement the UML diagram.
- This deliverable will include at least one CREATE TRIGGER statements and **at least two CREATE VIEW statements**. The triggers can be INSTEAD OF triggers to implement operations on VIEWS, and/or BEFORE/AFTER triggers to approximate the conditions dictated by assertions. In the final deliverable, there will be additional triggers and views required.
- This deliverable will include **at least fifteen queries**, **at least two of which will include GROUP BY and HAVING clauses** and **at least two of which will include join clauses**. This deliverable will include **at least one INSERT, at least two UPDATE,** and **at least one DELETE**.

  Typically, comments on CREATE statements will be header comments, appearing before the CREATE, but in-line comments are fine too. In the header comments, identify primary authors of each CREATE statement and each query, and secondary reviewers of these CREATE and query statements. In the final deliverable, there are minimums defined on the definitions by individuals.