Lab 4: Software Design

Due date: Thursday, May 12, 9:00pm.

This is a team lab. Each team submits one set of deliverables. Note: Lab 5 assignment will be distributed on, or before the due date.

Lab Overview

For this lab each team will do the following:

- Finalize the database design started in Labs 2 and 3 (once you receive feedback from the instructor).
- Design the software application wireframes for the application assigned to your team, using the set of use cases developed in class.

Database Design

Each team will receive an evaluation of Lab 3 submission on Thursday, May 5. Based on the comments received, as well as based on other information available to you, update and finalize your relational database model and your E-R model.

Software Design

There are two apps we are working on this quarter:

- The STEM Career Exploration Database Web Application (CED-M)
- The STEM Career Exploration Database Administrator Portal (CED-A)
Four teams will be working on CED-M, three teams - on CED-A.

We developed in class (during the April 28 lab period) a basic list of use cases for each application. Each team is responsible for developing the design of its designated app for the majority of the designed use cases. On Thursday, May 5, each team will receive "special assignment" specifying the list of use cases it is responsible for. Some of the more advanced/niche use cases will be assigned to individual teams, while the core use cases for each app shall be implemented by everyone.

Your software design should be visual - presented as a wireframe (set of wireframes) for the web application you are building. The artistic design for your wireframes can be kept to a minimum, but the functional design must match the list of use cases your team is responsible to.

You are encouraged to use Figma (or other interactive wireframe/software prototyping tools that are publicly available) for your design. While you will be submitting a PDF document, your task will also be to show and explain your designs to the instructor and the customers, which is easier to do with a Figma-style prototype.

**Deliverables**

Your deliverables are:

1. **Lab 3 evaluated hardcopy** with instructor’s comments. Return it back on Thursday, May 12 during the lab.

2. **Revised E-R model and DB design.** Based on instructor’s comments, revise your Lab 3 submission. The revised design shall contain the relational model (list of tables/SQL CREATE TABLE statements) and the revised list of constraints, as well as the E-R design files. You also need to have the new `DB-setup.sql` and `DB-drop.sql` files.

3. **Changelog.** To simplify grading, create a changelog, specifying the revisions made to the DB model.

4. **Software Design Document.** This should be a PDF document showing how the wireframes you created map to individual use cases assigned to you.

**Submission Instructions**

Submit hardcopy documents during the lab on Thursday, May 12. Submit electronic copies of the new documents as a single (Lab4) directory that is part of the Google Drive directory shared with the instructor. Post a message to your team’s Slack channel upon submission stating that the deliverables have been submitted (you can include a direct link to the directory into that message for convenience).