

## Final Project: Database Application

**Due date:** June 10<sup>th</sup> (Finals Week).

### Assignment Preparation

Your final project will be a team based project. The entire team will share the same grade unless there are exceptional circumstances.

Teams should be no more than **four** and no less than **two** unless I have given explicit permission.

After you gather your team and have an idea about what you want your project to be, talk with me about it. I can tell you if it will be a good project.

### The Task

The task for this assignment is simple: create an application that utilizes a database.

### Requirements

**Database.** For this assignment, you are required to interact with a database.

**Design.** You will have to design your database to fit your application.

**Updates.** Your application will have to perform at least one update operation (INSERT, UPDATE, or DELETE) on your database.

**Query.** Your application will have to perform a number of different query based operations. Because of the varying difficulty in queries, there is no finite number of required operations.

**GUI.** Most database applications act as front-ends that allow generic users to ask questions about the underlying data. Because they are meant for generic users, most database applications will feature a GUI. If your project features a GUI, I will be expecting less on the database design and query complexity.

## Deliverables

**Design Writeup.** You are expected to deliver a writeup about the design of your application and database.

Your writeup should contain adequate information on the following:

- Database Schema\*
- Application/Database Interaction (How is your end application interacting with your database).
- Database Operations (What you expect the database to be used for and the most common operations).

\*If for some reason you don't have control over the design of your database, then you can still write about the design of the database.

**Code.** **24 hours** before your project demonstration, you will have to turn in a copy of your code.

**Project Demonstration.** You will need to demonstrate your project to me.

**Break Code.** If I cannot break your code during the demonstration, you can get extra credit.

## Ideas

**Website.** Almost all modern websites load content dynamically from a database. Pages, products, and users are all stored in a database. A fully functional website backed by a database could be an adequate project.

**API.** A rest API is a great way to explore more complex database operations without needing a GUI.

**Web/Mobile App.** Because of the ubiquity of browsers, writing applications with web front-ends can easily make them multi-platform. Web technologies also make for one of the simplest and richest UI framework.

**Games.** Everybody loves games! Many games (almost every multiplayer game) uses a database to store game and user information. Games are a great way to increase your programming prowess in a fun environment.

**Double-Dipping.** I encourage efficiency. You may have a project in another class that would work well with a database.

## Submission Instructions

You will be required to schedule a demo to take place no latter than June 10<sup>th</sup> (Finals Week).

You **must** submit a copy of your code (even if it is incomplete) via email at least **24 hours** prior to your demo.

If any changes are made to your code after your demo, I will expect an updated version no later than 23:59 on the Friday of finals week.