Project Step 1: Project Proposal and Outline (Group)

Due Apr 13 by 8:59pm **Points** 5 **Submitting** a file upload **File Types** pdf
Available Mar 29 at 9pm - Apr 16 at 8:59pm 18 days

Aim

I want you to work in a Project Group to create a proposal for the Project, at most 3 pages in length. This assignment forms the basis of what your Project will be and what your database will look like. After viewing the lectures this week you should have an idea of what kinds of things databases are used for as well as the basic definitions of entities, relationships, attributes and various kinds of constraints.

Your Project should have at least 4 entity tables (4 different 'things' in your database) and at least 4 different relationships of which at least TWO must be a many-to-many relationship (like the Certifications in the ER Model lecture) *(*Note: At final implementation you will only be required to execute one of the two M:M relationships)* . Your proposal should explain the project and outline the 4 entities and 4 relationships in detail as described below.

This assignment also gets you started on your project right away by setting up a web server to connect to a database. I recommend using the MariaDB database created for you for this course and the ENGR servers to host your website made in NodeJS.

Deliverable

1. A **single PDF** containing:

Team members name and project title

a) Overview

Briefly describe the problem that a website with DB back end will solve. One excellent paragraph may be enough. Be specific (and include several numbers) so the reader can understand what sort of system is needed. A company that makes 200 sales per year will have a very different system from one that makes 20,000 sales per year. For example:

> Adventure Bikes sells $20 million in bicycles annually. A database driven website will record *Sales Orders* of *Products* to *Customers*.

b) Database Outline, in Words

Using a bullet list describe each entity in detail, its attributes and any relationships between entities. Explain the purpose of each entity. Attributes should be described in detail to include data type and any constraints. Describe any relationships between entities here too. For example:

- **Customers**: records the details of Customers we do business with
  - customerID: int, auto_increment, unique, not NULL, PK
  - email: varchar, not NULL
  - ...
  - Relationship: a 1:M relationship between Customers and Orders is implemented with customerid as a FK inside of Orders

All further steps of the Project development will be graded based on if they match your description of how the entities and relationships work. If you don't go into detail, the grader will use their best judgment, which will be final. For example, if we think a customer should be able to purchase multiple products on a sales order, and you don't clearly state this assumption in this assignment, you will likely lose points in the further steps of the project if your website does not allow multiple products on an order.

Be consistent in your naming of entities and attributes throughout your document, this helps later when you write your code. For example, if the overview describes *Customers,* then we expect an entity named Customers. If you use initial capitalization for entity names (or not), then we expect all entities to follow this convention. Its a good idea to make entities plural (e.g. Customers) and attributes singular (e.g. customerID). Its a good idea to distinguish when two words are combined (e.g. customerID or customer_id) but avoid using spaces in names (e.g. NOT customer id).

Frequently Asked Questions

Q. *Can my Project be based on this obscure novel? Can I have some items in the store in my Project given away for free? Can vampires in my Project world be traders of garlic? Can students in this University (in my Project) be given free points without having to complete their assignments?*

A. Yes. Anything can happen in your Project world and you are the master of that universe. The only thing we require is that you describe in detail any such quirks and deviations from general expectations. To be on the safe side, describe your world like you would to a layman.

Q. *Can I change various things in my Database Outline in later Steps of the Project?*

A. Yes. But, you would be required to supply the changed version of Project Outline + Database Outline.

Q. *Can I change my Project idea completely, later?*

A. Yes. But again, the changed version of this Step should be supplied in later steps.

Points

This is worth 5 points of your Project grade.

Project Step 1 Rubric (1)

Criteria	Ratings	Pts
Project Overview: a) team members names and title b) describes problem to be solved by web & db c) lists specific facts		1.0 pts
Outline: a) bullet list b) describes entity purpose c) attribute details include datatype and constraints d) describes relationships between entities		2.0 pts
Entities: at least four entities are described and each represents a single idea to be stored as a list		1.0 pts
Relationships: correctly formulates 1:M relationships between entities with FK and includes at least two M:M relationships		0.5 pts
Consistency: a) naming between overview and entity/attributes b) entities plural, attributes singular c) use of capitalization for naming		0.5 pts
	Total Points: 5.0	