CSC422 Database Design

Database Design Project
150 Points

I am expecting numerous discussions before you submit your project. It will not be a good idea to delay working on these project assignments close to the due date as that might result in a poor design and thus poor grades. However, it remains your responsibility to initiate these discussions either by setting up an appointment or during scheduled chat sessions.

Your first step is to identify the domain you would like to manage with your database. It is suggested that you pick an application that you will enjoy working with, since you'll be stuck with it for quite some time! Try to pick an application that is relatively substantial, but not too enormous. For example, when expressed in the entity-relationship model, you might want your design to have in the range of five or so entity types, and a similar number of relationships. In the past, I have accepted as reasonable those designs where the total number of entity types plus relationships was in the 8-14 range, but have questioned others. You should certainly include different kinds of relationships (e.g., many-one, many-many) and different kinds of data (strings, integers, etc.), but your application is not required to use weak entity sets, if they are not appropriate for your application.

Please submit (**One submission per group** and two students per group) the following on or before the deadline;

(a) Description of the database application you propose to work with throughout the course. Your description should be brief and relatively informal (**Two to Three Pages**). If there are any unique or particularly difficult aspects of your proposed application, please point them out. Your description will be graded only on suitability and conciseness. Do not include terms like entities, attributes, relationships or database design. **30 Points. Due Sunday of Week One by 11:59 PM**

(b) An entity-relationship diagram for your proposed database. As always, don't forget to underline key attributes and include cardinality ratio and participation constraint. If there are weak entity sets, indicate them by double lines, as described in the class. Clearly describe any assumptions that you are making. **70 Points. Due Sunday of Week Two by 11:59 PM.**

Note: If you have revised your deliver #1 based on my feedback then you need to resubmit project description again with Deliverable #2. I will not grade deliverable #1 again but it will help me compare your revised description with your ER-Schema while grading Deliverable #2.

(c) Using the steps (Described in the class) translate your ER Diagram to a set of relations. Please be sure to underline primary keys. Normalize your relations to highest possible form. For each opportunity to combine or decompose relations, decide whether or not to do so, and explain your reasoning briefly. **50 Points. Due Sunday of Week Three by 11:59 PM**

Note: If you have revised your Deliver #2 based on my feedback then you need to resubmit your ER-Schema again with Deliverable #3. I will not grade deliverable #2 again but it will help me compare your revised ER-Schema while grading Deliverable #3.