COP 4710 – Database Systems – Fall 2013

Term Project - Phase One – Conceptual Design

Due October 1, 2013

Phase 1

This phase of the project is a critical one. The overall usefulness of your final database will be directly affected by the decisions you make in this phase. Be as complete as possible in modeling the real-world scenario that your database is designed to capture.

After performing the requirements analysis of your chosen real-world scenario, you will construct your E-R diagram according to the techniques discussed in class. Completion of this phase requires the submission of a neat, readable, and complete E-R diagram depicting your conceptual design. The ERD must capture all of the constraints that are possible using the E-R modeling concepts and notations. Any constraints or requirements of the business that cannot be modeled by the E-R notation should be clearly stated in English.

Restrictions:

1. The schema of your database should have about 5 entity types and at least four relationship types. It would be nice if you could include a weak entity type, a superclass/subclass relationship, and a ternary relationship modeled as an associative entity, however, this will not be possible with all scenarios, but give it some consideration in your modeling.

2. Use the same notation for your ERD as appears in the on-line class notes. (You can use a tool such as Microsoft Visio, MySQL Workbench, or Oracle Designer if you wish.) In other words, do not use the old-style Chen notation.

3. Even though it is not technically part of the conceptual design, I want you to identify in this phase, the domain for each attribute included in your ERD. This will get you thinking ahead a bit toward the implementation side of things. Specifically identify each attribute which shares a domain with other attributes.

Be sure that your ERD is complete in that all attributes for each entity and/or relationship type are identified. Identify all keys for each entity set.

Be sure to identify all constraints such as cardinality and participation.