COMP 2714 – RELATIONAL DATABASE SYSTEMS

Assignment 5 – EER Modeling

Due at START of your Lab in week Nov 14 (Tue Nov 15) - Fri Nov 18, 2016

You are to work in groups of two. EER diagrams must be drawn in UML notations using Visio.

Submission: 3 EER diagrams (1: student view, 2: staff & residence-room view and 3: complete integrated model), plus the cover page:

Hand in the 3 EER diagrams (each diagram printed on one single page, scale to fit if necessary, but must be of readable font size) with a cover page clearly stating the course number, assignment number, student names and ID numbers, and set letter. Submit your assignment to your instructor at start of lab, unless instructed otherwise by your lab instructor. (Hint: Copy & paste the Visio diagrams into a Word docx as Visio object, resize as appropriate before printing.)

This printed copy submission is a must, and must be on-time. As a backup, submit also a copy of your Visio .vsd file to sharein, named Asn5_<lastname1><initial1>_<lastname2><initial2>.vsd.

Diagram layout, neatness and readability are of utmost importance in drawing EER model diagrams. (e.g. there should be minimal cross-over of relationship / association lines between entities / classes.) For this assignment, there should be NO line cross-over necessary. If you need help with Visio UML drawing, review the lab exercise and / or talk to your instructor. TO EMPHASIZE the importance of this, up to 50% of assignment marks can be deducted as judged by your lab instructor.

Q1: University Accommodation Office case study in Appendix B.1.1, p.B-1. Validate your model by ensuring that queries in B.1.2 can be answered.

Create a **CONCEPTUAL** Enhanced Entity-Relationship (EER) model to represent the data requirements of the University Accommodation Office. Start the EER model from 2 external (user) views: 1: **student** focus, and 2: **staff & residence-room** focus, and then 3: integrate the 2 external views into one **final** complete conceptual EER model, and fully attributed (i.e. with all attributes as given but **normalized**).

For each external view model, develop the EER diagram using the following steps:

(1) Identify entity types.
(2) Identify relationship types and determine the cardinality and participation constraints of each.
(3) Determine candidate keys attributes and primary key.
(4) Identify additional attributes and associate attributes with entity or relationship types.
(5) Specialize and/or generalize entity types (where appropriate/necessary).
(6) Complete the EER diagram.
(7) Re-read the case description to validate the EER diagram.
Where necessary, state any business assumptions you made when creating the EER model.

Remember: data attributes are **NOT** to be duplicated in multiple entities (unless for strong design reasons). **(i.e. apply normalization technique to ensure attributes in each entity are in 3NF.)**

Marking Scheme (based on the final complete EER model):

12 entities x 2 marks	= 24 marks (1mark entity, 1 mark attributes)
11 relationships x 2 marks	= 22 marks (1 mark relationship, 1 mark multiplicities)
Relevant business assumptions	= 2 - 3 marks
Others	= 1 - 2 marks
(Proper cover page information, etc)	

TOTAL = 50 marks