

ITEC 3335
Database Development
Fall 2018
Homework #3

ER Modeling

(1) Download and install "EA Assistant v2.1" from http://highered.mheducation.com/sites/0072942207/student_view0/e_r_assistant.html. You will need it to draw Entity-Relationship Diagram (ERD). This is a very simple ER tool with many limitations. If you want to use other tools, make sure that you discuss with the TA in advance so grading can be effectively done.

(2) Construct a simple ER model for the following Toy Employee System (TES). You should use the Crow's Foot notation as supported by EA Assistant v2.1. EA Assistant supports attributes for relationships and your ERD may have relationship attributes.

Toy Employee System (TES)

This assignment models a drastically simplified component of TES for a company. The company has employee, each with a unique employee id. The first name, last name, phone, and an optional email should be stored for each employee. Every employee has a current rank. These ranks are predefined. For example, employee X and Y may both be of the rank 'Laboratory Supervisor II', and Z may be of the rank 'Office Manager I'. A rank may have a rank description.

The start date of the current rank of every employee should be recorded. Furthermore, TES also stores the rank history of the previous ranks of every employee, together with the start dates and end dates of these ranks. For example, the rank history of employee X may be:

- Laboratory Assistant I: 1/21/2015 to 1/20/2016.
- Laboratory Assistant II: 1/21/2016 to 1/20/2017.
- Laboratory Supervisor I: 1/21/2017 to 3/5/2018.

Her current rank may be 'Laboratory Supervisor II' since 3/6/2018.

Each rank has a unique level that is used to determine the pay range. Several ranks may belong to the same level. For example, both 'Laboratory Supervisor II' and 'Office Manager I' may belong to the same level 'Supervisor Level II'. A level may come with a description.

There are departments, with a unique DeptId. The department name and email address should also be stored. An employee is always assigned to a unique

department as his primary department. He may support any number of additional department.

There are projects, each with a unique id, a name and an optional description. A project always has an employee as the project leader. It may have any number of additional employees working on it. A project always has a lead department.

Submit the homework through Blackboard with the extensions .erd, and .pdf (of a PDF printout of the .erd file or a PDF scan of the ER diagram) files. Naming convention should be the same for all homework submission: h<assignment number>_itec3335_<sid>>_<lastname>.<extension>. For example, H3_itec3335_0111006_Bond_Jane.pdf and H3_itec3335_0111006_Bond_Jane.erd.