

Fall 2010 CS 3200 Class Project: Milestone 3

The goal of this milestone is to convert our project's ER design to SQL tables. In practice everybody would work with their own ER diagram, finding out if application data could or could not be properly stored in the corresponding database. However, designs varied widely in features and overall quality, making it difficult to ensure fair grading for the next steps. Hence we decided that everybody should work with the same reference ER diagram, which we will send directly to you.

This milestone is to be completed individually (i.e., no teams). You can discuss problems with other students, but you have to create all deliverables yourself from scratch. In particular, it is not allowed to copy somebody else's code or text and modify it.

The report for this milestone is due on Tuesday, **October 5 at 5pm**. For late submissions you will lose one percentage point per hour after the deadline. This milestone is worth 10% of your overall homework score. Please email the deliverables to both me and Yue. You should receive a confirmation email from either of us. If you have not received a confirmation email within 12 hours after submitting your solution or by the time of the deadline, whichever comes first, you need to email us immediately to make sure we actually received your submission. (Of course, if you submit too close to the deadline, you might receive a confirmation sometime within the next 30 minutes after you submitted.) If you need to send multiple files, please create a single zip file. Many other attachments types, in particular rar files, are rejected by the CCIS mail server.

From ER to Database Tables (Mandatory)

Convert the reference solution for the project's ER diagram for tracking the flow of objects and social networking to SQL tables. *Ignore* the "alternative design" on some of the pages for now. Only work with the default design. To perform the conversion to CREATE TABLE statements, you need to use the techniques we discussed in class. When there are different options for the conversion, e.g., for some relationships, choose the one you think is best and briefly explain what choices you considered and why you picked one over the other.

Make sure you add all necessary key constraints, participation constraints, and so on. Whenever you think that you cannot model a feature of the ER diagram, briefly and precisely explain what it is that you cannot model. (In class we briefly mentioned assertions as a more powerful way of enforcing constraints. Since we have not properly covered assertions yet, do not use them for this assignment.)

From ER to Database Tables (Optional Bonus)

For up to 5 extra points, you can also submit a solution for a bonus assignment. The extra points can be used to compensate for points lost in the mandatory part of this assignment, but your score cannot exceed 100.

Consider the alternative designs for modeling students living in dorm rooms and for messages exchanged. Convert these alternative designs to SQL tables and compare them to the corresponding

tables you created for the mandatory part. Discuss briefly what is different and what advantages or disadvantages the alternative design has.

Deliverables

Create a report for this milestone with the following content:

1. Discuss all points requested in the text above for the mandatory part of the assignment.
2. Create the required tables for the mandatory part in our SQL Server database. You can do this by running the corresponding SQL statements in the query window or by clicking through the GUI options as we did in the first milestone. Once you created all tables, get each table creation script (again, like in the first milestone) and include it in your report.
3. (Optional, just for fun) If you are interested, create a database diagram showing the different tables and their key relationships. Find in SQL Server 2008 where database diagrams are located and simply create a new one for your database. It just needs a few clicks.
4. (Optional, for bonus points) Report the SQL statements (scripts) for the optional part of the assignment and discuss the differences compared to the mandatory part as requested above.