

# CMSI 486-01

## INTRODUCTION TO DATABASE SYSTEMS

Fall 2012

### Assignments up to I129

You asked for it, you got it: this is your opportunity to design and build a database application as a RESTful web service, from the ground up. This assignment is also unusual because it is set up as a sequence of 4 distinct milestones, staged roughly one week apart. Of course, the staging of the work is not strict; you will likely go back and forth through this cycle as the software evolves.

### Outcomes

This assignment will affect your proficiency measures for outcomes *1a-1c*, *3b-3d*, and *4a-4f*. Same ones as the last two assignment—you can see here how all of these come together to build your case for your proficiencies.

### Background Reading

The big addition due to doing things from the ground up is database design. Thus, you'll want to take a look at Chapter 7 and 8 of Silberschatz/Korth/Sudarshan for reference.

### For Submission

#### Milestone I030: Application Project Name and Repository

Decide on a project name and set up its repository, along with collaborators and initial documentation.

#### Milestone I101: Database Design, Service URI Contract, Distribution of Labor

Submit *individual* proposed database designs and service URI contracts. We will then merge the proposals into one final, true form.

#### Milestone I106: Technology Stack Setup

Put together a full technology stack source tree. It should successfully build a test-driven, deployable artifact. Stub-laden and feature-incomplete, maybe, but still test-driven and deployable.

#### Milestone I108: Domain Objects

Define the domain objects required by the database application. These objects should generally reflect what was expressed in the 1101 database design and URI contract, but may also revise those based on what might be discovered while the code is actually being written.

#### Milestone I115: Interfaces, Test Fixtures, Unit Tests, Some Implementation

Finish defining the interfaces required for the application, along with a test fixture and accompanying unit tests. Mocks may be used to facilitate successful testing without a full implementation (yet).

#### Milestone I129: Full Implementation

Finally, fill in the blanks. Everything in the current URI contract should run correctly, with good test coverage and documentation.