

## Systems Development: Detailed Design Assignment

### Background

This is the second of two assignments for the database design phase. We perform a detailed product design based on the requirements specification.

### Due Date

Each group will turn in a written report of the completed assignment due before the start of class on May 14, 2007.

### General Requirements

We are now at the point where system details must be established before coding (implementation) can commence. We must model permanent storage with table design, determine internal working of objects, accept data from screens, and quantify what reports will look like.

### Specific Requirements

Please make sure your group completes **all** of the assigned tasks for the entire assignment.

#### Schedule Work

Plan the group's tasks for the entire assignment. Determine a reasonable work schedule for completing all relevant tasks.

#### Table Design

Document each database table needed to store permanent data. Create a spreadsheet with multiple tabs, one tab for each table. On each tab, populate the following columns:

- Column name: something descriptive of the data stored.
- Data type: character, integer, floating point, or something else.
- Key use: none, primary key, foreign key into a different table. If foreign, specify which other table.

- Description: one sentence about what the data is or why we store it.

Although the number and type of columns will vary for each table depending on the requirements and design, all tables must have two columns: one to store the time stamp when the row was first created and one to store the time stamp when the row was last modified.

### Form And Report Design

Create a mock-up of all forms and reports to be developed during implementation. The group may use a drawing or presentation tool to generate screen designs and a word processor to generate report designs. This collection should include:

- Menu or navigation screens.
- Forms to insert, select, update, or delete database records.
- Forms to collect variables for running a query or other process.
- Paper reports generated by the system.

### Critical Code Design

Determine which transactions are the two most complex in the entire system. Remember, transactions should have been diagrammed as ovals in use cases and explained with sequence diagrams.

Design the code for one of these transactions using a collaboration diagram. Use psuedo code for the other.

Note: even though this assignment only requires critical code design for the two most complex transactions, it would be wise to perform this design for all transactions having sufficient complexity that the inner working is not obvious from inspecting the corresponding sequence diagram.

### **Final Report**

Submit a report including the work schedule and all of the items mentioned above. Write a short (three paragraph) executive summary on the major findings from the group during this phase.