Department of Computer Science and Engineering
College of Engineering, University of Nevada, Reno

CS 426 Senior Projects

March 22, 2006

Project Part III: Design

Due: Sunday April 2, 11:59 pm
Points: 100
Weight: 11% of the course grade

A Deliverables of Part III of the Project

Note: In the following **<T3>** denotes a team of three students and **<T4>** denotes a team of four. Also, the notation **<X/Y>** means **X** applies to a **<T3>** and **Y** to a **<T4>**.

For this part of the project you should provide a *Design Document (DD)* with the following structure:

0 *Table of contents*

1 *Introduction:* a general description (between 300 to 500 words) that briefly re-states the goals of your project and gives a concise account of progress made since the previous report (specification). Indicate changes in the project, refinements, and current status.

2 *High-level and medium-level design*: present the project in terms of high level architecture, subsystems, and program units. Given the diversity of projects, there is *significant flexibility* here. In any case, you should include, with accompanying textual descriptions, the following (a, b, c):

(a) At least one *system-level diagram*, e.g., a context model such as the one shown in Chapter 8 or the block diagram shown in Chapter 11 of the CS 425 textbook;

(b) The structuring of your software in *program units*. In the case of object-oriented solutions, the classes are examples of such program units, hence a design class diagram with details of attributes, operations, relationships, and multiplicity constraints should be provided (at least 7 classes are expected). Briefly describe the role of each class as well as the methods included in the classes (in total, at least <15/20> methods should be described). In non-object oriented solutions, program units can be modules, functions, procedures, subroutines, etc. Show the organization (hierarchical or not) of these units (at least <12/16> units are expected) and provide for each of them: name, description, the higher level unit (e.g., subsystem) to which the program unit belongs, its input, its output, program units called by this unit, its exceptions or interrupts, and any additional comments that could enhance the description of the unit.

(c) The major *data structures* used in your project (you are free to choose any type of data description that is suitable for your design). If database tables are used, for each table you could indicate its fields (columns) and its primary key(s). For example, a table containing information on employees may look like the following (in this case the primary key, shown in bold, is SSN):

SSN	Last Name	First Name	Position	Department	Office	Telephone	Email

3 *Detailed design*: include several details on the low-level design of your software.Teams **<T3>** should provide a total of three examples (items) of detailed design, while team **<T4>** should provide four such items. Any combination of reasonably complex items is allowed as long as two of the following four types of items are illustrated:

- *Pseudocode*
- *Statechart*
- *Activity diagram*
- *Sequence diagram*

4 *User interface design*: provide at least six (for <**T3**>) or at least nine (for <**T4**>) snapshots of the user interface, with accompanying descriptions. In these snapshots, details of the user interface (e.g., panels, toolbars, menus, menu items, buttons, textboxes, etc. for GUI or complete screenshots for text-based interface) should be presented, the format used in reports and statistics should be shown (if applicable), and samples of messages to the user should be provided.

5 *Annotated references:* describe how the project references (the problem-domain book and the **<4/5>** reference articles) relate to your project. The description for each article should be between 100 and 200 words.

6 *Contributions of team members.*

7 *Completed checklist* for this part of the project [the checklist will be made available later by the instructor – please check the course website on March 28].

B Grading of Project Part III: Design

1.	Overall presentation of the DD (all sections)	25 points
2.	High and medium-level design (section 2)	30 points
3.	Low-level design (section 3)	20 points
4.	User-interface design (section 4)	25 points
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	Total	100 points

Note: both the technical content and the presentation style (including quality of writing and document formatting) of your design document will be taken into consideration when grading the project.