

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

CS 425 Software Engineering

November 4, 2009

Project Part III: Design

Due: Monday, November 16, at 9:00 pm, by email (single PDF file, named P3_T##)

Points: 100

Weight: 9% 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 *Abstract:* a revised version of your project's abstract (100 to 150 words).

2 *Introduction:* a shorter 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 also any changes/updates made to your project's requirements.

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

- 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;
- 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.

- If database tables are used, for each table indicate its fields (columns) and its primary key(s). For instance, a table containing information on employees may look like the following one (note that the primary key, shown in bold, is SSN):

SSN	Last Name	First Name	Position	Department	Office	Telephone	Email
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- 4** *System-level statechart, flowchart, or data flow diagram:* this diagram should show the main operation/functionality of the system at a high-level. At least 6 (processing) states or activities should be included in this diagram. A textual description of the diagram should also be provided.
- 5** *Initial hardware design [optional, and only for teams that include CIE majors]:*
 - A high-level diagram showing the organization of the hardware components of your system (main components and their interconnections).
 - An initial list of potential components with brief descriptions of their roles. Include at least 3 snapshots (photos, or figures) of components likely to be used. Note that later you can use different, but similar components to those considered at this time. Indicate the sources used for snapshots/figures.
- 6** *User interface design:* provide at least six (<T3>) or at least eight (<T4>) snapshots of the user interface, with accompanying descriptions. In these snapshots, the main user interface components with details (e.g., panels, toolbars, menus, menu items, buttons, textboxes, etc.) should be presented, and the format used in output results, reports and/or statistics should be shown.
- 7** *Annotated references:* describe how the project references (<4/6> reference articles) relate to your project. The description for each article should be between 100 and 150 words.
- 8** *Contributions of team members.*
- 9** [Optional, but highly recommended] *Glossary updates:* include here new additions to the project glossary that you wrote for the second part of the project (SRS).

B Grading of Project Part III: Analysis & Design

1. Overall presentation, Sections 1 & 2	20 points
2. Section 3 [and Section 5 where applicable]	30 points
3. Section 6	25 points
4. Sections 4, 7 & 8	25 points

Total	100 points
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Note that both the technical content and the presentation style (including quality of writing and document formatting) of your design document will be graded.