

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

CS 425/CS 625 Software Engineering

Assignment #2

September 17, 2008

Due: Thursday, October 2, 4:00 pm (single PDF file via email or hardcopy)
Points: 50
Weight: 6%

1 Consider either (a) an online flight reservation system or (b) the software product you described in Exercise 2 of Assignment #1 (CS 425/625). Write for it the following:

- Two user requirements using the format shown in Fig. 6.10 of the textbook [SE-8];
- One system requirement using the standard form shown in Fig. 6.12 of the textbook; and
- Three non-functional requirements.

If you use (b) above, include again in this assignment the description of the software product you provided for Exercise 2 of A#1. [11 points]

2 Draw the state machine model (state diagram) for a digital alarm clock. The diagram should include at least 7 regular (non-terminal) states. Indicate your assumptions and describe the state diagram. [14 points]

3 Develop an object model (a class diagram) for a software system of your choice showing:

- At least 7 classes in the class diagram;
- The attributes of each class (at least 3 for each class);
- The relationships between classes;
- Cardinality constraints on relationships;
- For one of the class, at least 2 non-trivial methods.

Your model should include all three main types of relationship: inheritance, aggregation, and association. Note that a non-trivial method involves computations based on one or more attributes. State your assumptions and describe the class diagram. Also, briefly explain the two non-trivial methods. [15 points]

4 For five of the eight clauses (principles) in the ACM/IEEE code of ethics shown in Figure 1.6 of the textbook, provide an appropriate example that illustrate the clause (50 to 100 words each). The clauses (principles) included in the code refer to *public*, *client and employer*, *product*, *judgment*, *management*, *profession*, *colleagues*, and *self*. [10 points]

Notes on submission:

- Both the *technical content* and the *presentation style* (quality of writing and document formatting) of your answers will be taken into consideration when grading the assignment.
- Remember that this is an *individual assignment*, not a team work. Thus, collaboration is not allowed.
- Submit your assignment to the instructor as a single PDF file named A2_YourLastName.pdf at dascalus@cse.unr.edu OR leave a copy of your assignment in the instructor's mailbox in CSE Office (SEM-242).