

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

CS 425/625 Software Engineering

Assignment #2

September 20, 2006

Due: Thursday, October 5, 5:00 pm (PDF file via email or hardcopy)
Points: 48
Weight in course grade: 6%

1 Do Exercise 6.3, page 141 of the textbook [SE-7]. Indicate at least five ambiguities or omissions. [6 points]

2 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-7];
- 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. [12 points]

3 Do (part of) Exercise 8.4, page 191 of the textbook [SE-7], as follows: Draw the state machine model (state diagram) for an automatic washing machine that has different programs for different types of clothes. The diagram should include at least 6 regular (non-terminal) states. Indicate your assumptions and describe the state diagram. [15 points]

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

- At least 6 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]

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.