Assignment 2
Software Requirements and High-level Design
Total – 50 pts.

1. (4 pts.) What are the generic activities that take place in the requirements engineering process? What are the inputs/outputs of the RE process? Point out at least two problems you may come across in this process.

2. (3 pts.) Describe two different ways that requirements can be verified.

3. (4 pts.) What is main difference between the requirements and the design aspects of a software development project? Describe a certain task that would be done as part of requirements engineering but not during design and another task that would be done as part of design but not during requirements collection.

4. (4 pts.) Provide at least two user interface design guidelines for an interactive system (kiosk) that assists airline travelers check-in and print boarding passes by themselves. Why are these guideline important for this particular system?

5. (4 pts.) Write a user documentation for the interactive system in question 4. You can pick any form of documentation listed in the handout titled, “User Documentation”. Include at least four distinct steps or entries in your documentation.

6. (20 pts.) Provide the following for an online flight ticket reservation system:
a. A use case diagram with at least two actors and three use cases.
b. A complete scenario for one of the use cases – this should include all necessary details (refer the powerpoint presentation on use cases).
c. One user-level functional requirement (complete sentence).
d. Two or more design-level requirements for the above functional requirement (complete sentence).
e. One verifiable, non-functional requirement (complete sentence).
f. A context model including at least three other systems in the environment.
g. An architectural model with at least four sub-systems.

7. (4 pts.) What are coupling and cohesion? Use the airline reservation system above to provide specific examples of bad coupling and bad cohesion.

8. (3 pts.) What is refactoring? Describe a specific situation in which you would decide to do refactoring in a software development project?

9. (2 pts.) Compare thin and fat clients.

10. (2 pts.) What is the system boundary? What is an actor?