CpSc 875
Exam 1

Name_____

Answer any FOUR of the five questions. Place a large X on the page for the question you are not answering. If you answer all five, I will not count the one on which you did the best. All questions are counted the same: 25 points each.

Each question will refer to either the architecture you developed in the first project or the extended example that we developed in class. Be certain to answer using the correct system.

1. Consider the class example of a working domain model for software product lines.
    a. What is the role of the scenarios in a use of ATAM.
    b. List one trade-off we made in the example system.
    c. Write one scenario that could be used during an ATAM to evaluate this particular trade-off.
    d. What is the output from conducting the ATAM? How is this output used by the group that developed the architecture?

2. Consider the class example of a working domain model for software product lines.
   a. Describe how quality attributes fit into the architecture development process.
   b. For the top three qualities for this system, explain why we ordered them as we did.
   c. Describe how these three qualities drove the decomposition we made.
   d. Suppose that this was an architecture for a product to be delivered to a client rather than a research tool. How would this affect the quality attributes and our ranking of them?

3. Consider the class example of a working domain model for software product lines.
   a. Describe one tactic that we used to decompose the model in the class example. (Show the state of the architecture before the tactic and the state of the architecture after.)
   b. Why was that tactic chosen?
   c. Suppose portability had been the top priority among the quality attributes. What tactic might have been used starting from the same state as we started from in part "a" of this question?
   d. What is needed to describe a tactic?

4. Consider the anti-lock braking architecture you developed for the project.
    a. Describe one architectural style that you used in developing that architecture. (Give the major components and their connections.)
    b. What qualities were degraded by this style and which were enhanced?
    c. How are architectural styles blended? That is, after we applied the style described in part a, how might an additional style be applied?
    d. Describe one style that you considered for this system and discarded. Why was it discarded?

5. Consider the anti-lock braking architecture you developed for the project.
    a. Describe two stakeholders in this architecture.
    b. Describe what views would be included in the architecture description because of these two stakeholders. How is the information in one view different from that in the other?
    c. The views are described in volume two of the architecture description. What did you describe in volume one?
    d. Who is the audience for volume one?