**TIM 58 Winter 2017 Final Exam Directions and Grading**

The exam takes place Thursday, March 23, noon to 3 pm, in our usual class, Classroom Unit 1.

This is a closed book exam. Each student can have one 8.5 x 11 sheet with information of their choosing on both sides, and no other study aids.

Based on the following case study, please provide *one or more* of each of the following elements of the problem domain and its IT solution. All must be balanced.

1. Requirements definition
2. Activity diagram
3. Use-case description
4. Use-case diagram
5. CRC card
6. Class diagram
7. Package diagram
8. Sequence diagram
9. Communication diagram
10. Behavioral-state machine
11. CRUDE matrix
12. Mapping of problem domain objects to a relational database management system (RDBMS) using data access and management classes
13. Windows navigation diagram
14. Deployment diagram

(*The Case Study appears here.*)

**How the exam will be graded.**

The exam is graded out of 140 points. Each of the 14 required elements is worth 10 points, as follows:

*Form/syntax*: Up to 3 points. This includes the basic accuracy of each element – is it presented correctly based on examples in the book and in lectures?

*Semantics*: Up to 4 points. Is your information consistent with what the Moore Foundation wants, and internally consistent (that is, balanced). Your Requirements Definition will get full credit for consistency because it is the first element. But other elements could lose points if they are inconsistent with the Requirements Definition or any other prior element.

*Elaboration*: Up to 3 points. This concerns the level of appropriate detail provided, with more detail earning extra points. For example, a complete system description would require more than one of several of the elements, and would require extensive detail within each element.

**Separate Bonus Question (worth up to 7 points total)** (*Note – this is the same question is called the “final exam take-home question” on our course website.)*

1. Our textbook has used the terms ***cultural***, ***political***, and ***environmental*** in a number of different locations, for example, *political requirements* on p. 361. This question asks you to discuss your choice of **two** of them.

First, provide a definition of what each terms means from our textbook’s perspective. (Note that you might not be able to find a definition for each term, so you should provide one based on what is consistent with the materials in the book. Each definition should be justified with a reference and page number(s) to how the book uses the term.) Next think about how these terms have been presented in your other courses (GEs, college core, etc.). Based on the other courses, provide a second definition of each of the terms, if possible noting the actual course and reading/lecture. The four definitions should be presented in 2X2 table.

1. Below the table, for each of the paired definitions, describe the overlap in meaning. Are they identical? No overlap? Partial overlap? Explain.
2. What are the benefits for *systems analysis and design* of how our textbook uses the two terms and what, if anything, is missing from the definitions that could be beneficial to *systems analysis and design*? (Hint: something could be “missing” if the definition of the term is so narrow that it leaves out important aspects. Or the definition could be so general that it would take too long to cover all the aspects it includes. Or the definition could have other problems that you can identify.)