**TIM 58: Systems Analysis and Design**

**Winter 2017**

**Homework Set #9 (covering Chapters 10 and 11)**

*Due as a paper copy in class at the beginning of class Tuesday March 14.*

**1. Quarters, Inc. is a company that sells cardboard maps of the U.S.A. that have pre-fitted holes corresponding to the recently release quarters with state emblems on the back. The maps serve as display cases for the coins and collectors guides for families or individuals. Six months ago the marketing manager requested a new system that would allow retailers of the maps to order them in packs of fifty over the Internet. Three retailers are local and have volunteered to participate in a half-day evaluation of the new system. The new web-based system is almost complete. As the IS testing manager you have been assigned the task of testing the new system. Describe the four methods for interface evaluation and make a recommendation on the appropriate method or methods that would best fit the system described. (three points)**

**2. The problem of bias with regard to graphical outputs was presented in class and is discussed in the book. What is meant in this context by graphical bias? Generate an example of bias in a graph (that is, create a biased graph) and explaining what is biased about it. (three points)**

**3. Describe the five steps of the user interface design process. Why is this process iterative? (3 pts)**

**4. List and describe the three fundamental types of computing architectures. (3 pts)**

**5. List and identify the four general functions of an application system and apply each to the corresponding computing architecture. (3 pts)**

**6.** **Your team needs to implement a very secure system for the Johnson Space Flight Center. The Center has an endless hardware budget, so infrastructure costs are not a consideration. The Center has a well trained IS staff that is available for the project. Only six people will be interacting with the new system and they are engineers with years of computer experience. You do not see changes to the system in the near future.**

**Using the six characteristics of a computing architecture, make an architecture selection recommendation. (3 pts)**

**7. What is an enchanted object? Provide two examples that are found either in the book or were mentioned by Prof. Haddad in lecture. (3 points)**

**8. Define performance requirements. Briefly describe three key areas of performance requirements. 3 points**

**9. Our textbook (pp. 431-2) provides five recommendations on how to improve the environmental performance of IT systems. What are they? One of them has to do with purchasing only “Energy Star complaint electronics.” Do some additional research and explain what the Energy Star program is and what is meant by Energy Star complaint electronics. (3 pts)**

**10. Related to question 9, and possible requiring some extra research, why would transferring to cloud-based services be considered “green” (that is, having better environmental impacts than not using the cloud for equivalent processes and services)? (3 pts)**