CSC 230
Software System Engineering
Spring 2018

Take Home Exam

Due date: _____

Answer the following questions clearly and concisely. Provide examples whenever is appropriate.

Add a cover page with the following: course title, course number, semester and your name.

1. One of the problems associated with eliciting domain requirements is what often referred to as implicitness. Briefly describe what this means. (10)

2. Consider the following description:
    Dan and Mary are working a software system and are using a distributed version control system to manage their code. Mary pulls from the master repository and updates her working copy. She realizes there is a bug in the code and starts to resolve and fix the issue. When she is done, she commits her code. The next day, Dan begins working on the code by pulling from the master repository and updating his working copy. He too realizes the code has a bug (the same one Mary) and spends the whole day trying to resolve this issue. What went wrong? Why didn't Dan benefited from Mary's work? Explain your answer. (15)

3. Assume that 10 errors have been introduced in the requirements model and that each error will be amplified by a factor of 2:1 into design and an addition 20 design errors are introduced and then amplified 1.5:1 into code where an additional 30 errors are introduced. Assume further that all unit testing will find 30 percent of all errors, integration will find 30 percent of the remaining errors, and validation tests will find 50 percent of the remaining errors. No reviews are conducted. How many errors will be released to the field? Show your steps in getting the answer. (15)

4. Analysis models represent the customer requirements by depicting the software in three different domains: the information domain, the functional domain, and the behavioral domain.
    Which of these models you will choose if you are asked to choose only one and why. (20)

5. Select one design pattern and state (in clear steps) how this pattern can be improved. (20)

6. Is this statement true "cloud computing is a continuation of distributed models of software development and delivery" – Explain and justify your answer. (20)

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