Department of Computer Science and Engineering

College of Engineering, University of Nevada, Reno

CS 709B Advanced Software Project Management and Development

April 1, 2009

Study required for the Midterm Test

The midterm test will be a 70-minute (1 hour and 10 minutes) closed-book exam. No supporting material is allowed. The test will take place on Tuesday, April 14, 2009 from 4:00 pm in the regular classroom. Its weight is 20% of the course grade.

For this test you are required to study material from the two books used, [Stellman and Greene 2005] and [McConnell 2006].

Possible questions are the following:

[Stellman and Greene 2005]

Chapter 1

1. Briefly enumerate 4 basic project management principles that will help guide you through any software project
2. Describe and comment on the “Tell Everyone the Truth All the Time” project management principle
3. Describe and comment on the “Trust Your Team” project management principle
4. Describe and comment on the “Review Everything, Test Everything” project management principle
5. Describe and comment on the “All Software Engineers Are Created Equal” project management principle

Chapter 2

6. Explain the importance of the Vision and Scope document
7. Briefly outline the structure of the Vision and Scope document
8. Briefly outline the structure of the Project Plan
9. Describe the contents of the Statement of Work component of the Project Plan
10. Describe the contents of the Risk Plan component of the Project Plan

Chapter 3

11. Describe the Basic Course of Events of the Wideband Delphi estimation method
12. Explain the goal and describe the activities of the Kickoff Meeting in the Wideband Delphi estimation method
13. Explain the goal and describe the activities of the Individual Preparation in the Wideband Delphi estimation method
14. Explain the goal and describe the activities of the Estimation Session in the Wideband Delphi estimation method
15. Explain the goal and describe the activities of the Assemble Results phase in the Wideband Delphi estimation method

Chapter 4

16. Describe the 4 ways in which one task can be dependent on another. Also, give 2 reasons why a task may be dependent on another.
17. In project schedules, what is the critical path and why is it important to track?
18. Explain the difference between effort and duration (in connection with allocation of resources to tasks)
19. Describe what buffers are in project schedules, explain when are they useful, and indicate the risks of using buffers
20. Describe what earned value management is and explain how the performance of the project can be tracked

Chapter 5

21. Explain what is meant by inspection, describe its goals, and indicate why it is important
22. What are the desired qualities of a good moderator during inspection meetings?
23. What are the three main objections to inspections and how can each of them be addressed?
24. Describe how a deskcheck is preformed and explain when it is a useful review
25. Explain what is meant by code review and describe what is meant by a defect in the context of a code review
26. Describe the benefits of pair programming. Give several recommendations for implementing pair programming and indicate also some of the possible drawbacks.

Chapter 6

27. Explain what is meant by requirements elicitation, indicate its objective, and list three types of elicitation activities
28. Outline the structure of the discussion summary template (indicate its 7 components)
29. Indicate the structure of the SRS template
30. Explain the differences between functional requirements and non-functional requirements
31. Briefly describe 5 kinds of non-functional requirements

Chapter 7

32. Explain what a version control is and why it is important
33. Describe the basic course of events of Subversion
34. Compare the two models for version control systems: lock-modify-lock and copy-modify-merge. Explain which model is more efficient for team development.
35. Briefly explain the main purpose of refactoring a program
36. Describe the Test-Driven Development as a unit testing methodology. Also, state at least 4 benefits of applying this method to a software project.

Chapter 8

37. Explain how is quality measured in software testing
38. Explain what is meant by smoke tests and indicate what are their advantages and disadvantages
39. Explain what is meant by a postmortem report and discuss its importance
40. Indicate 2 questions that you would expect to see on a postmortem survey, and explain their purposes
41. Discuss 3 myths about testers

Chapter 9

42. Explain and discuss the “Not-Invented Here” syndrome
43. Explain and discuss the common excuse “It Just Adds More Bureaucracy" and give an example
44. Explain and discuss the “It’s Too Risky” claim
45. Describe two goals of measuring cost related to implementing changes (see section Measure Your Progress)

Chapter 10

46. In the context of project management, briefly explain what is meant by responsibility, authority and accountability
47. Describe 3 ways that guidelines can help make your decisions more predictable
48. Describe 3 rules that can help you avoid micromanagement
49. Describe several ways in which a project manager can motivate his or her team members

Chapter 11

50. Indicate the major reasons why outsourced projects fail. Briefly indicate the steps a project manager can take to prevent project failure (2-4 lines each).
51. Briefly indicate the main management issues that can arise while working on an outsourced project (2-4 lines each).
52. Under “Plan and manage the project scope” phase, explain why the client has more flexibility in the allocation of resources while outsourcing
53. Explain how an outsourced project’s inspection process can be adapted from an in-house project’s inspection process

[McConnell 2006]

54. Indicate at least 4 planning considerations dependent of estimates
55. Explain what is the real purpose of an estimation and provide two definitions of what a good estimation is (see definitions by Capers Jones; Conte et al; and McConnell)
56. Give 3 examples of project control activities that help meeting an estimate
57. Explain the meaning of Parkinson’s Law and Goldratt’s Student Syndrome
58. Describe 3 arguments against underestimation
59. Describe 4 benefits of accurate estimates
60. Enumerate the 4 generic sources of estimation uncertainty
61. Explain what is meant by the Cone of Uncertainty and describe what can be done to narrow it
62. Enumerate 5 sources of project chaos