

SWENET Module
SEP1 - Introduction to Software Engineering Processes
Exercise Booklet

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Exercise: Introduction to Software Engineering Processes

Exercise Description

The exercise involves complete a reading assignment about software engineering processes and providing written responses to a set of questions related to the reading.

Exercise Objectives

Students completing these exercises will be able to:

- * Discuss the term "software process", citing examples of different software processes and their use.
- * Describe the value of software processes in software development and the central issues with their implementation and use.
- * Define a simple process for a common activity with which students have experience.

Reading Assignment

1. Read the below material:
 - a. Brooks, F. P., The Mythical Man Month, Chapter 2: "The Mythical Man Month", pp. 13-26, Addison-Wesley, 1999.
 - b. Ferguson, P., Humphrey, W., Khajenoori, S., Macke, S., and Matvya, A. "Introducing the Personal Software Process: Three Industry Case Studies," Computer, pp. 24-31, May 1997.
 - c. Fleming, R., "A Fresh Perspective on Old Problems", IEEE Software, pp 106-113, January 1999.
 - d. Highsmith, J. and Cockburn, A., "Agile Development: The Business of Innovation", pp. 120-122, Computer, September 2001.
 - e. Paulk, M., "Extreme Programming from a CMM Perspective", IEEE Software, pp. 19-26, November 2001.
 - f. Webb, D. and Humphrey, W. S., "Using the TSP on the TaskView Project", CrossTalk, Journal of Defense Software Engineering, pp. 3-10, February 1999. (<http://www.stsc.hill.af.mil/crosstalk/>)

Written Assignment

1. In your own words, describe what the term "software process" means.

2. What does the statement "The bearing of a child takes nine months, no matter how many women are assigned." have to do with the development of software?
3. How many pair wise communication links are possible for a team of five people, compared to the one link for a two-person team?
4. What is your opinion of programming? Is it alchemy, craft, science, or engineering? Explain your answer.
5. What is the biggest obstacle to introducing process into the workplace?
6. Discuss "paired programming". What do you see as its advantages and disadvantages?
7. Give the statement "Poor customers result in poor systems", what can/should a developer do if she has a "poor customer"?
8. Give an example of the sort of software system for which it might be appropriate to use a highly structured CMM-type process. Give an example of a system for which an agile process like XP would be more appropriate.
9. When AIS (Advanced Information Services) introduced the PSP into their organization, what was the affect on the quality of they software produced?
10. In the Task View project, how did the use of the TSP affect productivity?
11. Design and document a process for some activity you have carried out before, maybe not successfully (writing a program, preparing for a test, writing a an essay or report, searching for a summer job, preparing for an athletic competition, losing some weight, learning to play a musical instrument). The process should include goals, description of activities, and measurement that determines progress through activities and success in meeting goals.

Exercise Deliverables

- * Completed Question Answer Sheet.