

CS 435 - Homework 2

Deadline

Due by 11:59 pm on Thursday, February 6, 2014

How to submit

Submit your files for this homework using `~st10/435submit` on nrs-labs, with a homework number of 2

Purpose

To think and write about the different software development process models discussed in Jalote, Chapter 2.

Important notes

Note that your submissions for this assignment may be posted to the course Moodle site.

Problem 1

Create a file `435hw2-1.txt`. Start this file with your name.

Consider the six software development process models discussed in Chapter 2 of the Jalote text:

- Waterfall Model
- Prototyping
- Iterative development (Jalote describes two variants, iterative enhancement and iterative delivery. For the purposes of this homework assignment, we'll limit this to the iterative **enhancement** variant.)
- Rational Unified Process (RUP)
- Timeboxing model
- Extreme Programming (Jalote grouped these as Extreme Programming and Agile Processing, but for the purposes of this homework we'll limit this to the more specific example agile model of Extreme Programming.)

For **EACH** of these software development process models:

- List at least three significant features/characteristics of that model.
- List at least one advantage of that model. (Note that this can be one from the chapter OR it could be something that you feel is an advantage, based on your reading and understanding about that model.)
- List at least one disadvantage of, or concern about, that model. (Note that this can be one from the chapter OR it could be something that you feel is an disadvantage or that you feel **COULD** be a

concern, based on your reading and understanding about that model.)

Problem 2:

The following is adapted from the Self-Assessment Exercise 3 on pp. 35-36 of the Jalote course text.

Consider again the six software development process models discussed in Chapter 2 of the Jalote text (and again, using the iterative **enhancement** model variant for iterative development, and using Extreme Programming for the category of agile models).

Also consider the following projects:

- a) A simple data processing project.
- b) A data entry system for office staff who have never used computers before. The user interface and user-friendliness are extremely important.
- c) A spreadsheet system that has some basic features and many other desirable features that use these basic features.
- d) A web-based system for a new business where requirements are changing fast and where an in-house development team is available for all aspects of the project.
- e) A web-site for an on-line store which has a long list of desired features it wants to add, and it wants a new release with new features to be done very frequently.

Now, for an actual project, one could, of course, determine/develop a process that was some combination of different "classic" software development process models. But as an exercise for thinking about the classic models, I want you to think about how well these different models, as described, might work for these different projects.

In a file 435hw2-2.txt, for **EACH** of these 5 projects a) through e):

- **PART 1:** Determine which of the above process models 1-6 -- as described in Chapter 2 -- might be the best "fit" for use with that project. **Name** the process model that you chose, and **describe why** you believe it is best choice for this project from amongst this set of process models.
 - If you feel you have to make assumptions about the project to determine the best process model "fit", then **include** those assumptions along with your model selection.
- **PART 2:** Then, for **EACH** of the remaining 5 process models that you **did not** choose, give at least one reason that you think that process model is a less-good fit than the process model you chose for this particular project.
- (So, note that you'll have FIVE sets of answers, one for each example project a) through e), and EACH project's answer-set includes:
 - the name of the model you chose for that project,
 - a description of why you chose it,
 - and for EACH of the other five models you did NOT choose, at least one reason each why you think it is a less-good fit than the one you did choose.)