Seminar

SeC2

Chapter 2.
The Software Process

Software Engineering
Computer Science School
DSIC – UPV

Goals

- Team work (4 persons) related to:
  - "Software Process"
  - Process development models or lifeccycles
  - Methodologies

Agile Methods

- Each Team must nominate an expert on:
  - XP (eXtreme Programming)
  - SCRUM
  - CRYSTAL
  - AGILE UNIFIED PROCESS

Agile Methods

- Phase I: Methodology-Driven Experts Meetings
  - SCRUM Experts Meeting
  - XP Experts Meeting
  - AUP Meeting
  - Crystal Meeting
  - Discover the main features of the given methodology
  - Use Discovery Template

- Phase II: Best Methodology Selection Meeting
  - Each expert of the group presents his(her) methodology to other team members
  - Decide and propose best agile methodology
  - Ellaborate a presentation including 1 slide per methodology and 1 slide to justify your selection.

Questions

Section 1. Process Models

Indicate whether the following statements are true or false. Justify your answers in any case.

1. The goal of Software Engineering is to deal with the implementation of software systems using object oriented languages.
2. The writing process of a project plan is iterative.
3. The quality of a software preoduct is measured once it is finished, just before it is delivered to the customer, verifying whether the predefined quality factors are fulfilled.
4. The participation of the customer in evolutionary process models is minimal, just at the beginning of the process and at the end in the acceptance tests.
5. In the classical model with prototyping, the prototype is generated by means of an automatic procedure. The subsequent development is manually made.

Questions

Section 1. . . .

6. A prototype is a software system with excellent operational features (efficient, robust, etc.)
7. In the automatic software programming paradigm, the prototype is either the specification or it is derived from the specification. However, the maintenance is performed on the code.
8. The software quality factors are focused on the correctness, the ease of maintenance and the portability.
9. What is a prototype and When is it used in the development of a software system?
10. The project plan just includes the planning of the project.

Questions

Section 1. . . .

11. The classical model with prototyping is an evolutionary model because each new prototype is a new version of the product to release to the customer.
12. In the automatic software development paradigm tests are performed on the formal specification.
13. The cost of a project is hard to estimate, mainly due to the cost associated to software engineers.
14. In the administration of a software project, the management of risks involves identifying the risks and assigning to each risk its estimated occurrence probability.
15. The maintenance phase is not considered to be part of any software process model, it is not even considered as a software quality factor.

Questions

Section 2. Methodologies

1. Indicate which ones are the essential elements of a methodology and their relationshio.
2. What is the difference between a process model and a methodology.
3. What two dimensions are defined in RUP. Briefly explain each one of them.
4. How does RUP answer the questions related to a software process: "A software development process defines who does what, how and when"?
5. Summarize the development process in RUP
6. Among the principles of agile methodologies there are some referring to the customer, others to the development team, and others to the process followed. Acording to this categorization, What principles do lie within each category? Justify your answer.
7. Indicate 4 favourable conditions for the application of an agile methodology
8. Summarize the development process in XP

Additional Questions

1. Comment on this statement: "Software engineering is more than coding..."
2. What caused the need for an engineering approach to software development?
3. Define the term "Software Process". Define the term "Software Process Model".
4. Is there any process model that integrates prototyping? Which one? Which one is its goal?
5. What does it mean that a software development process is iterative, evolutionary and interactive?
6. ¿What inconvenients does it have the fall development lifecycle? When is it appropriate to use it?
7. Explain four relevant features of the automatic prototyping approach.
8. Explain the main differences between the incremental lifecycle and the spiral one.
9. What is the difference between the following quality factors: correctness, reliability, integrity?
10. Explain why the writing process of a project plan is iterative and must be reviewed continuously during the project.
11. In the administration of a software project, what is a milestone? Give an example.
12. Identify four possible risks that may arise ina software project. Explain how would they affect to a project.
13. Explain at least four causes for the following situation: "Software products are low quality, costs are high and deliveries are late"
14. What do we mean with the term "high quality software"?

Additional Work

Methodologies.....

- Methodologies
- Comparison between methodologies
- Aplication of methodologies
- ..... .

(Agree the work to be done with your professor)