Activity 1: Software Processes

Why?

Every software development effort uses some process. We consider several of the most important models of software processes that have been proposed.

Learning Objectives

- Understand what a software process model is.
- Understand several important software process models.
- Understand the need for and procedure of evaluating software processes.

Success Criteria

- Be able to describe the waterfall, prototype evolution, spiral, RUP, and agile process models.
- Be able to list the advantages and disadvantages of these models.

Resources

Software Processes (pdf from Canvas)

Exercises

1. What is the difference between a software process and a software lifecycle process?

   A software process is a process used in the creation or support of a software product. A software lifecycle process is a process depicting the steps that occur from software product inception through retirement from service—that is, a process that shows all the steps in the life of a software product.

2. What is a prototype?

   A prototype is a working model of some or all of a finished product.

3. What is rework?

   Rework is discarding or redoing previous work products

Problem

1. Process models can be prescriptive or descriptive. If some organization sets out to use a particular software process in a project, is the process model descriptive or prescriptive?

   Prescriptive

2. Which of the waterfall, prototype evolution, spiral, RUP, and agile processes are iterative? Which are incremental?

Type	Models
Iterative	prototype evolution, spiral, RUP, agile
Incremental	prototype evolution, spiral, RUP, agile

3. Which of the waterfall, prototype evolution, spiral, RUP, and agile processes are lightweight and which are heavyweight?

Type	Models
Lightweight	Prototype evolution, agile
Heavyweight	waterfall, spiral, RUP

4. The waterfall model is present in some sense in all subsequent software process models. Describe the role that the waterfall model plays in the prototype evolution, spiral, RUP, and agile models.

Models	The role of waterfall model
The prototype evolution	exist in each iteration
Spiral	exists in both each iteraction and the whole process
RUP	exists in both each phase and the whole process
Agile	exist in each iteraction

5. List the advantages and disadvantages of each model in the table below.

Models	Advantages	Disadvantages
Waterfall	Refer to "Processes.pdf" in reading	
The prototype evolution		

Spiral		
RUP		
Agile		