Software Engineering

Assignment for Week 2

Assignment for Lecture 2: Software Processes

Please submit a report with your answers to the following questions. (m5XXXXXX_lec02.pdf)

1. Describe the problems with incremental development.
2. In modern software development, should there be a clear distinction between the development process and the maintenance process? Please describe your answer and discuss why.
3. Explain why incremental development is the most effective approach for developing business software systems.
4. Explain why change is inevitable in (complex) software systems
5. Give examples of software process activities that can help predict possible changes and make the software being developed more resilient to change.
6. Explain why systems developed as prototypes should not normally be used as production systems.
7. Explain why Boehm's spiral model is an adaptable model that can support both change avoidance and change tolerance activities.
8. Giving reasons for your answer based on the type of system being developed, suggest the most appropriate generic software process model that might be used as a basis for managing the development of the following systems:
   - An e-learning system where adaptive user interfaces are involved
   - A university accounting system that replaces an existing system
   - A monitoring system based on image recognition
9. Please summarize the Rational Unified Process (RUP), including basic concepts, advantages, and the evolution of its theory.

Assignment for Presentation

Please submit a report with your responses to the following questions. (m5XXXXXX_pre02.pdf)

1. *If you have suggestions* of articles for our presentation session, please provide the title and URL of the articles. Note that they should be from major journals related to Software Engineering. Here, those indexed in SCI and SCIE are considered as major journals. They should be open access. There are many such journals including:
   - IEEE Access
   - IEEE Transactions on Software Engineering
   - International Journal of Software Engineering and Knowledge Engineering, many others.

Deadline: 1 Week