SEng 5852 Team Project

Case 1: Software Development Process Improvement

Objective & Scope

The purpose of this case study is to analyze a real-life software development process, from a member of the team, and make recommendations for improvement.

To have meaningful outcomes, it is essential that at least one member of the team have firsthand, working knowledge of the process to be studied. It is recommended that the process for study be chosen among the processes in the organizations to which the team members currently belong.

This case includes two parts:

a) a succinct description of the end-to-end software development process (from requirements through maintenance), the context in which it is used, and the process improvement opportunities
b) clear problem statement and effective recommendations to improve the subject process.

Part (a)

Your team must choose an organization from among those to which you currently/formerly belong to serve as a case study for this assignment. For that organization, you will fully describe the end-to-end software development process used.

Additionally, your team must characterize the process context, i.e., the environment in which the process is used, paying particular attention to the dimensions for process selection/tailoring discussed in class and in your readings. Make sure you capture enough detail to support process improvement decisions.

Remember, this is a team project, thus all of you are responsible for critically analyzing the development process and project context to uncover details that may be overlooked. You will then succinctly write up your findings as a report and present the report to the class.

The description you provide should capture how the development process actually works rather than how it is documented, as existing process documents may or may not match reality.

Key points to consider when describing the process:

- End to end coverage from requirements to maintenance (end of cycle)
- Main line process
- Support processes
- Key work products/artifacts
- How the project and quality is managed via the process
- Flow chart(s) of the process

When characterizing the environment, consider what information you will need to help you recommend process improvements. We will discuss several dimensions to consider in class (e.g., the axes on the Boehm and Turner star diagram). It is up to you to select a suitable set to evaluate, but make sure you can defend this decision. In the description, identify the potential challenges of the process and what

data will be gathered to establish the problem statement and process improvement recommendations in Part (b).

Each team will present their process description, context, process challenges, and next steps at a software process forum in class during Session 7 (presentation requirements will be available 1 week prior). The written report will be 3 to 5 pages long, single spaced, strictly enforced, due before Session 8. Images (e.g., process flows) are permitted as additional pages beyond the given page limit.

The Part (a) report will be merged with your recommendations in Part (b) for the final Case 1 team report.

Part (b)

For the second part, your team must analyze the process challenges and related data to develop specific, concrete recommendations for improving the chosen software development process (and only the process), then document in an additional 3- to 5-page (single spaced, strictly enforced) report.

These recommendations must be based on actual observations, subject process analysis, and contextual project constraints. Provide rationale, explaining why you expect each recommendation to succeed, as well as challenges and mitigations.

The team will present these recommendations at a second software process forum in class during Session 10. The complete Case 1 team report, a single paper that combines your reports from parts (a) and (b), is due before Session 11.

Team Evaluations

Team members are expected to work effectively, participate fully, and resolve conflict or challenges. Each team member will submit a team evaluation after Part (a) and again after Part (b) that identifies the strengths and opportunities for improvement for the team and/or each team member. Evaluation results will factor into individual grades.