Unit 9 Reflection

In this unit, we considered how to determine whether functional and non-functional requirements of a system are fulfilled as part of software quality. Various approaches were considered, such as the role of quality assurance and control, quality metrics, and managing technical debt. Introduction to software quality factors was engaging, pointing to the foundation laid by McCall et al. (1977). They identified fifty-five quality characteristics affecting software quality. It was interesting to read how the researchers classified elements contributing to software quality. And despite referencing research from over 40 years ago, I think their ideas are still relevant today, given that maintainability, reusability, interoperability, and modularity are vital topics in software development. Considering the ISO25010 standard relating to software quality, I could not help by spot the similarities to McCall et al. (1977). They laid the initial software quality factors. Thinking on this drives home the impact researchers have on future generations: laying the groundwork of thought.

The key to maintaining software quality is the management of technical debt. Lenarduzzi et al. (2021) posed a research question about prioritising technical debt. They identified that code and architecture debt is the most researched topic, likely because they are easier to measure. They conclude that the only way to manage technical debt is to refactor it—reducing code smells or violations—continuously and iteratively. I think this recommendation fits well with the Agile software development, given the framework already supports the notion of iterative development. Therefore, it must be considered part of a project manager's job to ensure development teams are consistently refactoring any technical debt, thus ensuring higher software quality.

The team continued to hold weekly progress meetings and keep abreast of the software delivery based on customer requirements for team assignment.

References

Lenarduzzi, V., Besker, T., Taibi, D., Martini, A. & Fontana, F.A. (2021). A systematic literature review on technical debt prioritisation: Strategies, processes, factors, and tools. *Journal of Systems and Software*, *171*:110827.

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