e-Portfolio activity

Reflection on Software Quality

Task:

Review the article by McCall, Richards & Walters (1977). Select a timelier academic article on software quality. Discuss, in 300 words, the major differences in relation to software quality between the two articles.

Review:

The 1977 publication by McCall, Richards, and Walters, titled "Factors in Software Quality," played a crucial role in molding software quality models, and presented a structure for defining and assessing software quality. This study identified key software quality aspects such as correctness, reliability, efficiency, maintainability, and flexibility, along with their associated criteria and metrics. The goal was to equip acquisition managers with tools to objectively evaluate software quality throughout their lifecycle (McCall et al., 1977).

Contemporary research on software quality has undergone significant changes owing to technological progress and evolving software-development methods. A more recent study, "A Systematic Review of Software Quality Models in Software Engineering" by Al-Qutaish (2010), demonstrates these shifts. Modern approaches incorporate agile development, continuous integration, and automation principles, which are vital in the

current software development cycles. These advancements emphasize the importance of flexibility and adaptability to swift changes, with a focus on decreasing the time to market while preserving quality.

A significant distinction between McCall et al. (1977) and more recent publications is the approach to the software lifecycle phases. McCall et al. (1977) contextualized software quality within strict development stages, from requirements analysis to testing, presuming a waterfall model of development. By contrast, the current literature integrates quality management into iterative and ongoing processes. The focus has shifted towards maintaining quality through continuous refinement, rather than at specific milestones.

A significant distinction lies in the focus on the user-centric design and experience. Contemporary frameworks prioritize ease of use and accessibility, reflecting the increasing significance of user contentment in software offerings. Furthermore, security issues, which McCall et al. (1977) briefly mentioned under the concept of "integrity," are now explored more extensively, particularly in light of the escalating cyber threats in our current interconnected digital landscape.

References:

McCall, J. A., Richards, P. K., & Walters, G. F. (1977). Factors in Software Quality. General Electric Company, Air Force Systems Command, Griffiss Air Force Base.

Al-Qutaish, R. E. (2010). A Systematic Review of Software Quality Models in Software Engineering. Journal of Software Engineering and Applications, 3(1), 35-41.