

Collaborative Discussion peer review 1: Factors Which Influence Reusability

Peer Review to Helen Siu's post.

Your post offers a deep and thorough analysis of the factors influencing reusability in object-oriented software, as Padhy et al. (2018) discussed. Your emphasis on the Requirement Analysis (RA) as the biggest priority is well-argued. Reusing RAs sets the stage for an efficient development process at its earliest stage. Similarly, highlighting of the Architecture-Driven Approach (ADP) recognizes architecture's foundational role in enabling reusability.

I also agree regarding the importance of Design Patterns (DP). While you've acknowledged their value in expediting development for similar requirements within the team, additionally, design patterns also encompass best practices that can be widely communicated and understood across different teams, which supports alignment on the requirements and solutions, promoting reusability.

One area where I believe your analysis could be further enriched is considering Documentation in the Project (DIP). While you've ranked DIP as the fourth factor, it might be useful to prioritise it even higher. Comprehensive documentation acts as a roadmap for future maintenance and reuse, especially if the development teams change; with a quality documentation, even poorly-architected and designed components can be easier to reuse effectively. The documentation can significantly decrease the learning curve for new project teams, thereby enhancing reusability.

References:

Padhy, N., Satapathy, S., & Singh, R.P. (2018) 'State-of-the-Art Object-Oriented Metrics and Its Reusability: A Decade Review', in: Satapathy S., Bhateja V., Das S. (eds) Smart Computing and Informatics. Smart Innovation, Systems and Technologies. 77. Springer.