Collaborative Discussion peer review 2: Factors Which Influence Reusability

Peer Review to Jordel Davidson-Swann's post.

You have articulated the importance of various assets well for reusability of object-oriented software as identified by Padhy et al. (2018). I agree with the emphasises of the foundational role of Requirement Analysis (RA), Knowledge Requirement (KA), and Architecture-Driven Approach (ADP).

I also agree with your insight on the Knowledge Requirement (KA), emphasizing that experience and knowledge accumulated from past projects are invaluable for future endeavors. This asset is indeed critical as it underpins the creation of a knowledge base that can significantly reduce the learning curve and time to market for new projects.

It may also be beneficial to consider giving higher priority to Documentation in Project (DIP) and Design Patterns (DP). Comprehensive documentation ensures that the software can be understood, maintained, and reused by someone other than the original developer, especially if the engineering teams change, and this is a critical aspect of reusability. Similarly, design patterns provide solution frameworks that can be effectively applied to similar recurring use cases, making them indispensable tools for developers seeking to apply reusable concepts.

While you have given Test Cases/Test Design (TCTD) less priority, I believe it is also important for software reusability. Testing the solution is an indispensable part of the development process, and standardising test cases is an asset that can save considerable time when new components are developed or existing ones are integrated into new projects.

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.