

## Software Design minute paper

★ You can choose language you use as you like. 記入は日本語でも英語でも良いです。

Date : 2024-07-03

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Today's topics : Verification and Validation (V&V)

(Describe your summary in each blank below. You can adjust (increase or decrease) spaces as you like.  
以下のそれぞれの項目の下に要点を記載。スペースは自由に増減して良い。)

[What you learned (学んだこと)]

I learned about the concepts of Verification and Validation (V&V) in the software development process. Verification ensures that the software meets the specified requirements and is implemented correctly, while validation ensures that the software fulfills its intended purpose and meets the needs of the users.

The lesson covered different techniques and methods for V&V, including:

- **Inspections and Reviews:** Formal evaluations of the software artifacts to detect defects early.
- **Testing:** Executing the software with various inputs to find defects. This includes unit testing, integration testing, system testing, and acceptance testing.
- **Static Analysis:** Examining the code without executing it to find potential errors and improve code quality.

We also discussed the importance of creating effective test cases, which include preconditions, inputs, expected outputs, and postconditions. Additionally, the concept of boundary value analysis and equivalence partitioning was introduced to create more comprehensive test cases.

[What you need to learn more (更に学びが必要だと思うこと)]

I need to deepen my understanding of different testing strategies and how to apply them effectively in various stages of the software development lifecycle. Practicing the creation of detailed and effective test cases for different types of software systems will also be beneficial. Additionally, learning more about automated testing tools and techniques will help streamline the V&V process.

[Misc. Comments and/or questions (その他 所感・質問等)]

Understanding how to balance the effort and resources between verification and validation activities to maximize software quality would be useful. Additionally, learning best practices for documenting and tracking V&V activities throughout the development process is important.