

Week_6_df

Using Google Scholar, search for a recent article about **back-end engineering** and development. In your discussion:

- Provide a summary of the case.

The article was about backend development on the Laboratory Information System in university of Riau. The research was concentrating on creating a back-end system that could be implemented in the development of laboratory information systems. They used a V-Shaped model as a reference. For testing they used unit testing, integration testing and system testing with ISO 25010. The authors defined an information system as: "Information System is a system that is designed using various processes and algorithms with the aim of disseminating information between system users." They described its SDLC as follows: "This system was designed using the V Shaped Model, which is also known as the Verification and Validation model. The V-Model is one of the SDLC models which is a variation of the Waterfall model and is described in the form of V."

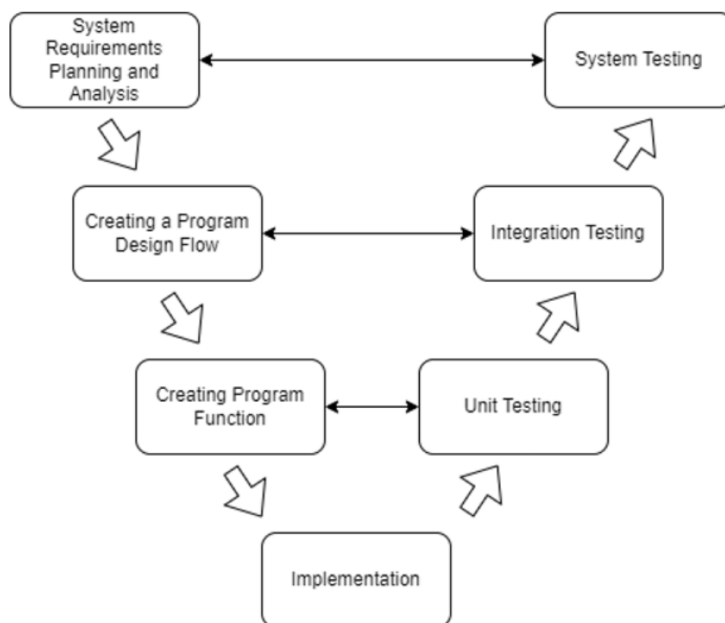


Fig.1. V Shaped Model

- Share new backend engineering or development concepts that you learned from the article or case study.

I have learned about the V-Shape development model. How they at first stage gathered system requirements, how they planned and did analysis. They added: "Creating a Program Design Flow stage contains the program workflow, combination of units and is also paired with Integration Testing." To ensure that a system was in good quality they did a benchmark based on ISO 25010. They also performed compatibility testing that the system ran on different browsers and operating systems. Security testing they described as: "Security and

Maintainability was tested using SonarQube. SonarQube is an open-source platform for assessing the quality of a program's source code. This assessment covers many points including code design, duplication, potential bugs, maintainability, and many more.”

References:

1. Muhammad Hakim Saputra, 2023. Back-End development on Laboratory Information System in Universitas Riau <https://ijeepse.id/journal/index.php/ijeepse/article/view/146>
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