

## **Abstract**

The Village-Owned Enterprise Application Information System (SIABDes) has developed a Minimum Viable Product (MVP). This MVP has been tested on Village-Owned Enterprises (BUMDes) around the city of Bandung. This MVP received feedback, in the form of changes to the features of recording financial statements and taxation of PPN and PPh 21. In addition to feature changes, this MVP has security issues, source code maintenance difficulties and no unit test implementation. This has the potential to cause system failure, if additional features or code maintenance are added. In addition, SIABDes also has a target user of 270 BUMDes. Based on these challenges, a thorough reconstruction can be done to facilitate maintenance and addition of application features in the future. In order to model a well-structured reconstruction, a monolithic modular architecture was used. This architecture focuses on the speed of development and modularity of the code, making it easy to maintain and easy to implement in a small team. The type of testing on the implementation of this architecture is done by performance testing. This test was conducted by simulating the user load of 270 BUMDes. Based on this test, it can accept the user load without a significant increase in performance.

**Keywords:** modular monolithic, back-end, BUMDes, refactoring, performance test