

Abstract

The problem that is often faced by front-end web developer is writing code program code repeatedly on the same component, so that the written program code becomes less efficient, flexible and complicates the maintenance process. In this study, the development of a e-learning website interface was carried out using a component-based architecture. The application of component-based architecture aims to make program code on a component reusable, flexible and simplify the maintenance process. This research will use the Vue.js framework to implement component-based architectures. The results of the website interface program code using Vue.js will be tested using automated testing with unit test using Jest. Automated testing can provide fast feedback and allow developers to find code errors after they have been created. Testing with unit testing using Jest will produce a code coverage matrix that is used to state parts of the software code that are not tested. The matrix indicates that there are sufficient tests of program code, resulting in a rarity of software bugs and providing confidence for developers to modify existing code. The results of this study shows that the development of an e-learning web interface by implementing a component-based architecture using Vue.js can make program code reusable, efficient, flexible and easy to maintain.

Keywords: E-Learning, Component-Based Architecture, Vue.js, Unit Testing