ABSTRACT

In the continuously evolving era of information technology, mobile applications have become a crucial component in meeting modern users' needs, especially in the rapidly growing property sales sector in Indonesia over the past few decades. The Qirby mobile application is specifically designed to simplify the process of displaying property information by providing a comprehensive solution. This application not only offers detailed information about available properties but also features such as scheduling meetings, providing a more efficient experience in the property transaction process. Therefore, Qirby not only meets the needs of modern users but also addresses complex challenges in the property sales sector. However, one common issue in mobile application development, particularly in interface development, is the frequent occurrence of repetitive code across different pages of the application. Repetitive coding has been a longstanding problem for programmers, leading to frequent code duplication, which results in less efficient and less flexible programs and can complicate maintainability. To address this issue, an architecture is needed that can break down repetitive lines of code into individual components. These components can then be reused throughout the Qirby mobile application interface, eliminating the need to rewrite the code. The proposed solution is the development of the Qirby mobile application using Component-Based Architecture (CBA) with the Flutter framework. This architecture focuses on the development approach and reuse of application components. The use of Component-Based Architecture aims to separate specific aspects of a system into independent components. After implementation, an evaluation was conducted to determine whether CBA indeed transforms code into reusable components, thereby reducing code duplication and improving maintainability. This was done by analyzing with SonarQube and comparing the code quality in terms of code duplication and maintainability with the mobile application interface development of Qirby that did not implement CBA. From this comparison, it can be concluded that CBA can create separate, reusable components and significantly reduce code duplication, thus facilitating the maintenance process.

Keywords: *property acquisition, mobile application, component-based architecture, flutter, sonarqube*