Penerapan *Design Pattern* Pada Rancang Bangun Dan Implementasi *Clean Architecture* Pada Aplikasi Dokternak

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ABSTRACT

Dokternak is an Android-based information system created to facilitate farmers in finding nearby animal health workers and to consult about issues faced by farmers, such as livestock diseases. Currently, there are 3,229 users of the Dokternak application. With the large number of users, developers need to handle it to ensure the stability of the application's performance. This research applies Design Patterns to solve performance issues that occur within the Dokternak application. The author applies one of the Design Patterns used in Android application development, namely the MVVM Design Pattern. By implementing Design Patterns, the written code can be easily readable, maintainable, testable, and reusable.

In the functionality testing of the Dokternak application, black box testing was conducted using the Equivalent Partitioning technique. The results obtained were a total of 41 matching results and 19 mismatched results. Meanwhile, in the testing of the difference between the old system and the new system, the following results were obtained: in the old system, the average memory usage was 125.3MB and the average network usage was 305.4ms. In the new system, the average memory usage was 131MB and the average usage was 164.2ms.

Key words: design pattern, clean architecture, android