

REST API IMPLEMENTATION USING MVVM ARCHITECTURE IN THE ANDROID-BASED DESIGN OF AN ANDROID-BASED SMP N 2 NGAGLIK E-LEARNING APPLICATION

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ABSTRACT

E-Learning or Electronic Learning is a learning system through electronic media which can be interpreted as a form of utilizing information technology in the world of education in the form of an online platform that allows it to be accessed anywhere. The e-Learning implemented at SMP N 2 Ngaglik uses the online learning platform from geschool. Geschool is an education-based social network aimed at online learning. In utilizing learning activities, the current E-Learning has a drawback, namely that to access it you always need an internet connection, making it difficult for students to get learning materials if there are internet problems. Apart from that, geschool does not have a native Android application that can support application performance. One way to support the performance of an application is by implementing software architectural patterns. This research was created by applying the REST API and MVVM architectural design. Model-View-ViewModel (MVVM) is an architectural pattern that promotes separation of interests, separating graphical interfaces and business logic processes (back-end logic). The resulting application was developed using the Kotlin and PHP programming languages. Application test results using the Whitebox method stated that the application ran smoothly and as expected. By applying the REST API architectural design and the MVVM architectural pattern, it produces an Android-based E-Learning application that is light and user friendly. In the future, this research will be developed so that the resulting application has more features.

Keywords: *Android, Kotlin, E-Learning, REST API, MVVM, Laravel, SMP N 2 Ngaglik*

