

# **BUILDING MATHEMATIC LEARNING APPLICATION FOR ANDROID WITH THE APPLICATION OF GAMIFICATION DEVELOPED WITH RAPID APPLICATION DEVELOPMENT**

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## **ABSTRACT**

Math is often regarded as a challenging subject for students to learn. However, there are various approaches that can aid students in the learning process, such as watching educational video online, utilizing social media platforms, reading math-related books, or using math applications. Although research has been conducted on this topic by several researchers, the existing applications do not offer enough features to enhance the understanding for learners. In light of this issue, the author proposes an application that encompasses a wide range of subjects and provide tasks and questions aligned with school curriculum. The development of this app will be based on Rapid Application Development (RAD) methodology consisting of four phases. In the requirement planning phase, questionnaire will be distributed among students at SMKN 02 Bengkalis to gather requirements. The User Design phase involves conducting interviews with math teachers to ensure the design align with the application's intended purpose. During the Construction phase, the application will be developed using Visual Studio Code. Finally, in the Cutover step, the application will be tested with students and math teachers to ensure its quality and functionality. This research yielded an application that enables users to learn various math subjects, take exams, and engage in gamification elements such as challenges, badges, and achievements. The application was tested using Black Box methodology, involving both students and teachers. User feedback was gathered via questionnaire based on the System Usability Scale, and the result were analyzed using the Slovin formula, indicating the app falls under the 'good' category. The questions provided are less effective as they are chosen by the developer. To improve future research, it is advised to facilitate teachers in order to ensure more effective questions.

Keywords: gamification, mobile application, mathematic