

## INTISARI

### RANCANG BANGUN GAME EDUKASI MATEMATIKA DAN TIK BERBASIS MOBILE ANDROID STUDI KASUS SMPN 1 LIMAU

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Pendidikan dan teknologi menjadi poin penting dalam pengembangan individu dan masyarakat. Di SMPN 1 Limau, Kurikulum Merdeka memperkuat pembelajaran matematika dan TIK. Namun, keterbatasan akses ke lab komputer dan ketidaksesuaian materi pembelajaran menciptakan tantangan. Solusinya adalah pengembangan game edukasi berbasis Android. Penggunaan game tersebut diharapkan dapat merangsang minat belajar siswa, memperkaya pengalaman belajar, dan mendukung kurikulum.

Metode yang digunakan adalah *Extreme Programming* dengan alat UML seperti *use case diagram*, *activity diagram*, *class diagram*, dan *sequence diagram*. Database yang digunakan adalah *Firebase*. Tahapan pengembangannya mencakup perencanaan, desain, pengkodean, dan pengujian.

Hasil penelitian menunjukkan bahwa game edukasi berbasis Android berpotensi meningkatkan minat belajar siswa, mengintegrasikan pembelajaran dengan kurikulum sekolah, dan memberikan manfaat bagi pengembang, sekolah, dan institusi pendidikan terkait. Tujuan penelitian mencakup pemahaman tentang dampak game edukasi terhadap minat belajar siswa, pengembangan game yang sesuai dengan kebutuhan sekolah, dan menyusun rekomendasi untuk meningkatkan penggunaan teknologi dalam pembelajaran.

**Kata Kunci** : *Game Edukasi, Matematika Dan TIK, Mobile Android, Extreme Programing*

## ABSTRACT

### THE DESIGN OF ANDROID-BASED MATHEMATICS AND ICT EDUCATIONAL GAME A CASE STUDY OF SMPN 1 LIMAU

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Education and technology are crucial points in individual and community development. In SMPN 1 Limau, the Merdeka curriculum strengthens mathematics and Information and Communication Technology (ICT) learning. However, limited access to computer labs and mismatched learning materials create challenges. The solution is the development of an Android-based educational game. The use of this game is expected to stimulate students' interest in learning, enrich learning experiences, and support the curriculum.

The method used is Extreme Programming with UML tools such as use case diagrams, activity diagrams, class diagrams, and sequence diagrams. The database used is Firebase. The development stages include planning, design, coding, and testing.

The research result showed that Android-based educational games had the potential to increase students' interest in learning, integrate learning with the school curriculum, and provide benefits for developers, schools, and related educational institutions. The research objectives included understanding the impact of educational games on students' learning interests, developing games that meet the needs of schools, and making recommendations to enhance the use of technology in learning.

**Keywords** : *Educational Game, Mathematics and ICT, Android Mobile, Extreme Programming.*