

**THE DEVELOPMENT OF ANDROID MOBILE
APPLICATION AS INTERACTIVE MULTIMEDIA IN
EARTH LAYER TOPICS FOR JUNIOR HIGH SCHOOL
RESEARCH PAPER**

**Submitted as Requirement to Obtain Degree of Sjana Pendidikan in
International Program on Science Education (IPSE) Study Program**



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**INTERNATIONAL PROGRAM ON SCIENCE EDUCATION
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**THE DEVELOPMENT OF ANDROID MOBILE APPLICATION
AS INTERACTIVE MULTIMEDIA IN EARTH LAYER TOPICS
FOR JUNIOR HIGH SCHOOL**

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Skripsi yang diajukan untuk memenuhi salah satu syarat memperoleh gelar Sarjana
Pendidikan pada Fakultas Pendidikan Matematika dan Ilmu Pengetahuan Alam

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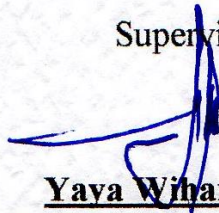
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DECLARATION

I do hereby declare that every aspect was written in this research paper entitled “The Development of Android Mobile Application as Interactive Multimedia In Earth Layer Topics for Junior High School” genuinely results of my original idea, effort, and works. The theories, findings of experts, opinions, and others contained in this paper have been quoted or referenced based on scientific code from UPI and in accordance with scientific ethics that applies in scholarly society. This declaration is created truthfully and consciously. When an infringement towards scientific ethics subsequently is found or if there is a claim of any others towards the authenticity of this research paper, hence I am willing to responsible and accept academics sanctions correspond to the rules.

Bandung, August 2019

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THE DEVELOPMENT OF ANDROID MOBILE APPLICATION AS INTERACTIVE MULTIMEDIA IN EARTH LAYER TOPICS FOR JUNIOR HIGH SCHOOL

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ABSTRACT

Technological developments in this era are experiencing rapid progress. Especially in the field of science, everyone refers to education that will trend in the 21st century. Where education will become very modern with the help of many technologies to support student learning. The android-based application is nowadays used in order to engage students' understanding of science learning. In this work, we will propose a android learning application, named "E-Layer", as interactive multimedia for learning science. This application discusses physical material on the topic of the earth layer. This application is made using Unity software. Unity is software that can make applications for games or learning applications in two dimensions or three dimensions that are packaged in an interactive multimedia display. This application that has now been completed is the first version of the application that has undergone 7 changes and development during the creation process. Researchers have evaluated this device. The results showed that based on content expert evaluations, the average mobile learning score was 96%, language evaluation based on experts was 82.50%, and media design (IT) rated an average of 87.93% from the range 88 , 81%. As well as based reviews from science teachers and junior high school students the percentage of mobile learning applications is 90.55% and 92.50. Based on this, the Android mobile application is very suitable for use as a learning application. This application is dynamically designed and equipped with various supporting features, such as: images, videos, sounds, multi-language animation settings, and so on. The author suggests that this application can continue to be developed in future studies.

Keywords: E-Layer, Unity, Android Mobile Application, Interactive Multimedia.

PENGEMBANGAN APLIKASI MOBILE ANDROID SEBAGAI MULTIMEDIA INTERAKTIF PADA TOPIK LAPISAN BUMI UNTUK SISWA SEKOLAH MENENGAH PERTAMA

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ABSTRACT

Abstrak. Perkembangan teknologi di era ini sedang mengalami kemajuan pesat. Terutama di bidang sains, semua orang mengacu pada pendidikan yang akan tren di abad ke-21. Di mana pendidikan akan menjadi sangat modern dengan bantuan banyak teknologi untuk mendukung pembelajaran siswa. Aplikasi berbasis android saat ini digunakan untuk melibatkan pemahaman siswa tentang pembelajaran sains. Dalam karya ini, kami akan mengusulkan aplikasi pembelajaran android, bernama "E-Layer", sebagai multimedia interaktif untuk pembelajaran sains. Aplikasi ini membahas materi fisik tentang topik lapisan bumi. Aplikasi ini dibuat menggunakan perangkat lunak Unity. Unity adalah perangkat lunak yang dapat membuat aplikasi untuk game atau aplikasi pembelajaran dalam dua dimensi atau tiga dimensi yang dikemas dalam tampilan multimedia interaktif. Para peneliti telah mengevaluasi perangkat ini. Hasil penelitian menunjukkan bahwa berdasarkan evaluasi ahli konten, skor pembelajaran mobile rata-rata adalah 96%, evaluasi bahasa berdasarkan ahli adalah 82,50%, dan desain media (TI) dinilai rata-rata 87,93% dari kisaran 88, 81%. Selain berdasarkan ulasan dari guru sains dan siswa SMP, persentase aplikasi pembelajaran seluler adalah 90,55% dan 92,50. Berdasarkan hal ini, aplikasi seluler Android sangat cocok untuk digunakan sebagai aplikasi pembelajaran. Aplikasi ini dirancang secara dinamis dan dilengkapi dengan berbagai fitur pendukung, seperti: gambar, video, suara, pengaturan animasi multi-bahasa, dan sebagainya. Penulis menyarankan bahwa aplikasi ini dapat terus dikembangkan dalam studi masa depan.

Kata kunci: E-Layer, Unity, Aplikasi Android Mobile, Multimedia Interaktif.

PREFACE

All praise belongs to Allah SWT because of His Mercy and Grace, the author could finish the research paper entitled “The Development of Android Mobile Application as Interactive Multimedia in Earth Layer Topics for Junior High School”. *Salawat* and *Salaam* might be sent upon the prophet Muhammad, the last of His Messengers and prophet, his family, companions, and all those who follow his steps till the end of the time.

The research had been conducted to develop the Android mobile learning application based on Arduino projects for Junior High School students. This research paper is the requirement to fulfill the Bachelor Degree of International Program on Science Education.

The perfection belongs to Allah. The author realizes that there are many weakness or limitation that need to be fixed and improved. Thus, suggestions, comments, and recommendations are openly welcomed for the better quality of mobile learning application in the future. Hopefully, this research might bring benefits for science education, technical aspect, and better learning and teaching implementation.

Bandung, August 2019

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