ABSTRACT

DESIGNING AN AUGMENTED REALITY APPLICATION FOR ANDROID-BASED SOLAR SYSTEM LEARNING MEDIA

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The Solar System is being taught to Grade 6 students, focusing mainly on the theory of explanation with limited use of simple media for practice. This research aims to develop an Android application that utilizes Augmented Reality (AR) technology to serve as a learning medium for the Solar System. AR technology combines virtual objects with physical objects seamlessly through a computerized process, giving the illusion that the virtual objects are actually present and realistic to the user. AR integrates three-dimensional (3D) virtual objects into the three-dimensional real world, displaying them directly or in real-time. The development of the AR application as a learning medium for the Solar System utilizes the Marker Based Tracking method and applies the Multimedia Development Life Cycle (MDLC) method for planning, development, and testing in the application systems. The application has been tested using the Black Box Testing method, and the results indicate that all features of the application function properly according to their intended purpose. Furthermore, the pre-test results showed an average score of 57, and there was a significant improvement observed after the post-test, with an average score of 88. In conclusion, the alternative Solar System learning media application can be considered as an effective learning tool.

Keywords : Augmented Reality, Solar System, Marked Based Tracking, , MDLC, Black Box Testing