

## **ABSTRACT**

### **IMPLEMENTATION AUGMENTED REALITY AS GEOMETRY LEARNING MEDIA USING MARKER BASED TRACKING METHOD**

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*Mathematics has an important role in education and has links with other fields of science. Nonetheless, the quality of mathematics education is still lacking as seen from the 2018 PISA score which places Indonesian students' mathematical abilities in a low position. One of the math material that is considered difficult is geometric shapes. Students' difficulties in learning geometric shapes are due to the limited visualization provided by the teacher. To improve learning, innovation is needed such as the use of Augmented Reality (AR) as an interesting and interactive learning medium. This study uses the Marker Based Tracking method in the application of AR. The developed AR application is included in the multimedia application category, using the Multimedia Development Life Cycle (MDLC) development method. The stages of developing this multimedia application can be adjusted according to research needs. This research aims to develop interesting and interactive learning media in studying geometric material using the Multimedia Development Life Cycle method. The results of this study using black box testing indicate that this application is free from functional errors. In addition, the results of usability testing using the USE Questionnaire obtained a score of 92.44%, which can be classified as "Very Good" in the aspects of Appropriateness recognizability, Learnability, Operability, and Accessibility. Therefore, this application is feasible to be used as a spatial learning medium.*

**Keywords : learning media, geometry, augmented reality, marker based tracking, mdlc**