

***Fruit Recognition Game for Early Childhood  
Based on Augmented Reality***

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**ABSTRACT**

*Early Childhood Education is a level of education that houses educational institutions such as playgroups or playgrounds and Kindergartens, where this age is the golden age for the formation of a child's personality and character. This study aims as an interesting and varied learning method, so the need for augmented reality-based fruit recognition games to increase children's interest in learning. This game uses markers as fruit recognition and uses the Memory Match algorithm to identify, recognize and remember images. Implementation results From the marker, namely the 3d object and an explanation of the fruit that appears. Meanwhile, the result of the implementation of the memory match algorithm in this game is the display of several pairs of closed cards that must be opened to complete the game. In the Lumen experiment, the higher the lumen, the faster the camera detects the marker. In the UAT test, from the two variables, the first in terms of application quality got 84%, the second in terms of information quality got 85%. In the marker difference experiment, it can be concluded that the more accurate marker is the colored marker.*

**Key words :** *Fruit Recognition Game For Early Childhood Based Augmented Reality, Markerless Augmented Reality, Memory Match Algorithm.*