DEVELOPING AUGMENTED REALITY APPLICATIONS FOR LEARNING ANIMAL CLASSIFICATION BASED ON HOW THEY REPRODUCE

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ABSTRACT

Augmented Reality (AR) is a learning media technique that integrates two-dimensional and three-dimensional objects into real-world environments. The development of AR technology is rapidly advancing, particularly in the field of education. Given AR's primary function of enhancing the realism of objects, its application in educational media is highly effective in making learning more engaging. This study aims to develop an application that supports AR-based learning methods, specifically designed to introduce users to various animal reproduction methods. There are three primary types of animal reproduction: oviparous (laying eggs), viviparous (giving birth), and ovoviviparous (a combination of laying eggs and giving birth). The application will first scan a two-dimensional marker image, which will then be transformed into a three-dimensional object. To enhance user engagement, the learning method incorporates challenges where users must guide 3D animals to their correct reproductive methods. Users will control the animals using a joystick that allows movement in all directions: forward, backward, right, and left. In addition to these challenges, the application provides audio information about the animals, further enriching the user's understanding. The results of this study indicate that the application was successfully developed in accordance with its objectives. Testing was conducted using six types of animal markers: chicken, penguin, cat, horse, iguana, and snake. All six markers successfully displayed 3D objects and produced the corresponding animal information sounds.

Keywords: Augmented Reality, Learning, Application, Animals, Reproduction