ABSTRACT

Design and Develop an Ornamental Fish Recognition Application Using Augmented Reality with Marker-Based Tracking Method (Case Study: Dypa Aquarium Randudongkal)

Oleh
MUHAMMAD ALI AKBAR
16102166

The utilization of information technology in the process of delivering information has undergone significant development. In the current era, the latest technology that is experiencing a trend is Augmented Reality technology. This Augmented Reality technology can visualize objects in 3-dimensional form, particularly in smartphone applications. One form of utilizing augmented reality is the recognition of fauna that can be visualized in 3D. By utilizing augmented reality technology, it is hoped that the recognition of these animals becomes efficient and interactive. The world of hobbies related to the maintenance of fauna is currently growing, including the hobby of maintaining ornamental fish. Because information about the recognition of various types of ornamental fish is still quite difficult to find for the general public, and even in several ornamental fish stores in Randudongkal, there is no physical catalog regarding the various fauna that will be sold. Based on this background problem, this research aims to serve as a medium for utilizing learning technology for the recognition of ornamental fish available in ornamental fish stores, which is expected to provide a modern impression and attract the interest of children to learn how to properly maintain various types of ornamental fish. This application is a mobile Android-based application built using Unity software and utilizes Vuforia as the marker database. The application utilizes the camera as a medium to display objects on markers in the form of black and white images, resulting in 3D images on Android smartphones, along with the results of user testing satisfaction questionnaires.

Keywords: ***Augmented Reality***, ***Unity***, **Vuforia**