

# ***DEVELOPMENT OF AUGMENTED REALITY APPLICATION AS AN ANIMAL RECOGNITION MEDIA AT MINI ZOO JOGJA EXOTARIUM***

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## **ABSTRACT**

*This research was motivated by the limitations in conveying animal information at the Mini Zoo Jogja Exotarium, which was less than engaging and made it difficult for visitors to directly observe the animals' natural behavior. To address this, an Augmented Reality-based educational application was developed that displays videos of animal behavior in their natural habitat. The application development was carried out through the stages of problem identification through observation, problem formulation and objectives, literature review, system and interface design, application implementation using Unity and the marker-based Vuforia SDK, as well as black box testing, device technical testing, and user questionnaires. The application was tested on various Android devices and under different lighting conditions, distances, and angles to ensure optimal performance. The test results showed that all application buttons and features functioned well, including menu navigation and video playback. The application detected markers accurately in sufficient lighting, a distance of 10–50 cm, and an angle of 0°–90°. The best performance was found on devices with  $\geq 8$  GB of RAM. From the questionnaire, 90% of respondents understood the animal habitat and behavior, and all felt the application helped the learning process. Thus, this application has succeeded in becoming an engaging, easy-to-use educational medium that supports technology-based learning in the zoo environment.*

**Keywords:** *Augmented Reality, mobile application, animal education, Mini Zoo, educational video*