ABSTRACT

IMPLEMENTATION OF AUGMENTED REALITY ON ARJUNA TEMPLE USING MARKER BASED METHOD

By

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The temple is a place of worship building from the relics of the past that originated from hindu-buddhist religion. One of the famous temples in Dieng is Dieng Temple or Arjuna Temple complex, there are five temples located in the Arjuna temple complex consisting of Arjuna, Semar, Srikandi, Puntadewa and Sembadra temples. The purpose of this study is to create an Augmented Reality (AR) based application as another alternative to tour guides and measure the intensity of light, distance, and angle on markers. AR technology allows users to visualize objects or temples in 3-dimensional form. AR has the advantage of being real time and interactive so that it is widely implemented in the field of education as a medium for learning history. Currently, the level of tourists continues to increase, data shows that from 2018 to 2019 the level of tourists at Arjuna temple has increased while the role of tour guides is not necessarily able to meet the information needed by visitors and is not always there every time or availability. The method used by the Augmented Realily application is marker based this method will bring up 2D, 3D animation objects, video, audio, or text. Application by scanning from the camera which will then appear on the smartphone screen through the introduction of a marker. The development of this software uses the Waterfall method as a method of creation flow, consisting of analysis for data collection, design to find out the needs of the application, application aims to implement the design that has been made, testing to find out errors or bugs and finally treatment to fix errors and bugs found. The results of this study showed that distances of 15 cm, 45 cm and 90 cm and an angle of 30 degrees to 90 degrees resulted in a high success rate with a light intensity of 200 lx to 500 lx. Testing was carried out using a blackbox on the Arjuna Temple application which showed success in all its functions.

Keywords: Temple, Augmented Reality, marker-based tracking, Waterfall mode, Blackbox