

PENGEMBANGAN *VIRTUAL REALITY* UNTUK DIGITALISASI MANDALA 2 DI PURA BESAKIH

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ABSTRAK

Pengembangan *Virtual Reality* untuk Digitalisasi Mandala 2 di Pura Besakih merupakan suatu pemanfaatan teknologi untuk konservasi warisan budaya. Bencana alam yang tidak bisa diprediksi dan renovasi yang dilakukan di kompleks Pura Besakih menyebabkan perubahan yang mengancam keutuhan arsitektur pura serta peraturan yang membatasi wisatawan untuk tidak memasuki area larangan sehingga wisatawan tidak bisa sepenuhnya menjelajahi/memasuki area utama pura khususnya bagian Mandala 2 sehingga diperlukan upaya untuk melakukan konservasi berbasis digital dengan menggunakan teknologi *virtual reality* yang memungkinkan pengguna untuk melakukan interaksi dan eksplorasi melalui lingkungan virtual. Penelitian ini bertujuan untuk mengembangkan *virtual reality* sebagai media informasi sekaligus media konservasi warisan budaya berupa arsitektur bangunan pura. Penelitian ini menggunakan metode *Research and Development (R&D)* dengan menggunakan model *MDLC* yang meliputi tahap *Concept, Design, Material Collecting, Assembly, Testing, dan Distribution*. Pengujian pada penelitian ini menggunakan 5 pengujian: (1) Uji *white box* dengan penerapan disetiap prosesnya sudah sesuai, (2) uji *black box* menunjukkan hasil tidak terdapat kesalahan, (3) uji ahli isi mendapat hasil rata-rata persentase 87 % termasuk sangat baik, (4) uji ahli media mendapat hasil rata-rata persentase 93% termasuk sangat baik, (5) uji *UEQ (User Experience Quistionnaire)* dari 20 responden dengan hasil positif.

Kata kunci: Warisan Budaya, Konservasi, Digitalisasi, *Virtual Reality*, *A-Frame*, *MDLC*.

**DEVELOPMENT OF VIRTUAL REALITY FOR DIGITILIZING OF
MANDALA 2 AT BESAKIH TEMPLE**

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ABSTRACT

The development of virtual reality for the digitization of Mandala 2 at Besakih Temple is a use of technology for the conservation of cultural heritage. Unpredictable natural disasters and renovations carried out in the Besakih Temple complex caused changes that threatened the integrity of the temple architecture as well as regulations that restrict tourists from entering the prohibited area so that tourists cannot fully enter the main area of the temple, especially the Mandala 2 section so that efforts are needed to carry out digital-based conservation using virtual reality technology that allows users to interact and explore through a virtual environment. The aimed of this study was to develop a virtual reality as an information medium and conservation medium archives as cultural heritage in the form of temple building architecture. This study uses the Research and Development (R&D) method with the model used is the MDLC stage includes Concept, Design, Material Collecting, Assembly, Testing, and Distribution. Moreover, five stage of the testing process that had been done in this study, such as; (1) The white box test with the application of each process was already appropriate. (2) the black box test showed that there was none of the mistakes obtained. (3) the content judgement showed that the average percentage was 84% categorised as very good. (4) the media judgement showed that the average percentage was 93% categorised as very good. (5) The use of User Experience Questionnaire (UEQ) was gained positive respond as the average percentage from 20 respondents.

Keywords: Cultural Heritage, Conservation, Digitalisation, Virtual Reality, A-Frame, MDLC.