

ABSTRACT

Amara Rosalie Swid, 50420159

APPLICATION OF MULTIMEDIA DEVELOPMENT LIFE CYCLE (MDLC) METHOD IN CREATION OF DESKTOP-BASED TRADITIONAL MUSICAL INSTRUMENT MUSEUM METAVERSE APPLICATION USING BLENDER AND UNITY SOFTWARE

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Key words: Metaverse, Traditional musical instruments, Multimedia Development Life Cycle, Technology 3D.

(xii + 92 + Attachment)

Metaverse can offer more immersive and dynamic interactions, this technology has great potential in various sectors, including education and cultural preservation. One aspect of Indonesian culture that requires special attention is traditional musical instruments, which are spread across various regions in Indonesia and are an integral part of the national cultural heritage. This research aims to develop a desktop-based Metaverse application that displays traditional Indonesian musical instruments in three dimensions (3D) to increase users' understanding and interest, especially the younger generation, in these musical instruments. The method used in this research is the Multimedia Development Life Cycle (MDLC), which includes six stages: concept, design, material collection, creation, testing, and distribution. In the concept stage, the application goal was determined to introduce and preserve traditional musical instruments through the Metaverse. The design stage involves creating 3D models of the angklung, bonang, cengceng, gambang and serune kalee musical instruments, as well as designing the application interface. At the material collection stage, the required text, images, animation and sound were collected, and the hardware and software used were Blender and Unity 3D. Testing is carried out using black box and user acceptance testing (UAT) methods to ensure functionality and user satisfaction. The results of this research were 89.0% of 15 respondents indicating that the Metaverse application developed provided an interactive and interesting learning experience, thereby increasing users' understanding of traditional Indonesian musical instruments.

Bibliography (2012 – 2024)