

## UTILIZING DIGITAL VIRTUAL REALITY TECHNOLOGY TO SAFEGUARD AND CONSERVE REGIONAL INDONESIAN LITERATURE AND CULTURE

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### Abstract

*Indonesian culture includes traditions, customs, visual arts, dance, music, culinary arts, architecture, and much more. Indonesia possesses unique literature and culture in various forms, such as poetry, prose, drama, and oral literature like folk tales and legends. The existing literature and culture are Indonesia's identity and cultural heritage that must be preserved. Digital Virtual Reality technology can serve as an effective medium by preserving culture in interactive forms, conserving traditions, presenting cultural performances, delivering cultural heritage with interactivity, and being globally accessible. This research utilizes a qualitative research method with a literature review approach. This method involves the analysis and interpretation of relevant literature sources, such as scholarly journals, books, articles, and papers related to the use of VR technology in preserving Indonesian regional literature and culture. By utilizing VR technology wisely, we can enhance accessibility, understanding, and appreciation of literature and culture worldwide, ensuring that this heritage continues to be valued and preserved for future generations.*

**Keywords:** *Digital Technology, Indonesian Culture, Indonesian Traditions, Preservation, Virtual Reality, VR.*

### INTRODUCTION

Indonesia has unique literature and culture covering various forms, such as poetry, prose, drama and oral literature such as folk tales and legends. Meanwhile, Indonesian culture includes traditions, customs, fine arts, dance, music, culinary, architecture and much more. Existing literature and culture constitute Indonesia's identity and cultural heritage that must be preserved.

Unfortunately, social changes and the influence of globalization can threaten the existence of existing literature and culture. Traditional cultural values are often eroded by popular culture and global trends, causing a decline in interest in local literature and culture.

In Giri (2018) cultural transformation can be seen as a change in behavior patterns caused by a number of new experiences which directly or indirectly become the knowledge of a group of people who are members of a society (Hoed in Maryadi, 2000: 12). Furthermore, Sukardika (2004: 34) said that to see social transformation, in this case culture is not seen as a heritage object, but rather seen as the dynamics of society's response to its environment.

External phenomena that drive change include the impact of telecommunications, transportation, trade, tourism, and the intensive touch of global civilization (Geriya, 2008: 1).

Building a culture with character, strengthening identity and local wisdom should be used as the basis for formulating strategies for preserving and developing culture. (Giri, 2018)

As a country that has cultural diversity and a rich literary heritage, it faces challenges in maintaining and preserving its regional cultural and literary riches in this modern era. Existing literature and culture are considered boring and uninteresting, oral traditions and cultural practices are starting to erode, and regional literary heritage is threatened with losing its relevance. However, amidst these challenges, digital technology is emerging as a promising platform for the preservation of literature and culture.

Digital technology has developed rapidly and has become part of our daily lives, we can use this to ensure Indonesia's cultural heritage remains alive and is passed on to future generations.

This research aims to see the important role that digital technology can play in efforts to preserve Indonesian regional literature and culture. Through the appropriate use of digital technology, we can create new opportunities to document, promote and expand accessibility to Indonesian literature and culture.

By understanding the role of digital technology as a potentially powerful platform for preserving Indonesian regional literature and culture, we can develop strategies and practical steps to ensure that this valuable cultural heritage remains alive and relevant in the digital era.

Time Magazine in 1978 claimed that computers can provide learning experiences that are full of visual and multisensory displays so that students are able to reach a level in just a few months that they might only be able to achieve after years of learning using conventional methods (Burston, 2003: 18).

There are several types of digital technology that can be used to preserve regional Indonesian literature and culture, for example digitalization and archiving, through online platforms, mobile applications, Augmented Reality (AR), Virtual Reality (VR) technology, and others. In this study, researchers specifically wanted to see the potential of using Virtual Reality (VR) technology in preserving regional Indonesian literature and culture.

Virtual reality is a collection of combined hardware devices used to create a simulation of an environment. The environment created is a replica of a real environment with three-dimensional settings, images and sounds. Neelakantam & Pant (2017:1)

The use of Virtual Reality hardware has been applied in various fields in the world, this is the basis of interest for researchers to see the potential of its application in preserving literature and culture in Indonesia which has the potential to be forgotten or even lost.

## RESEARCH METHOD

This research uses qualitative research methods with a literature study approach. This method involves analysis and interpretation of relevant literary sources, such as scientific journals, books, articles and papers related to the use of VR technology in preserving Indonesian regional literature and culture.

Qualitative research places more emphasis on understanding social phenomena approaches from the perspective of the research subject. The characteristic of the qualitative method is that data is presented in descriptive form in the form of text, narrative, words, expressions, opinions, ideas collected by researchers from various sources in accordance with data collection techniques or methods. Then the data is grouped based on needs with an interpretive approach to the subject and then analyzed (Denzimdan and Lincoln, 2009)

Qualitative research methods with a literature study approach allow the author to present an in-depth review of the topic under study. By combining various trusted literary sources, this paper can provide a strong theoretical foundation and comprehensive understanding of the use of Virtual Reality technology in preserving regional Indonesian literature and culture.

## RESULT AND DISCUSSION

Digital Virtual Reality (VR) technology has the potential to preserve Indonesian regional literature and culture. By combining visual, audio and interactive elements, VR offers a deep immersive experience, allowing users to feel and be directly involved in it.

Burdea & Coiffet (2003: 2) define the main features of Virtual Reality, namely real-time interaction. Here real-time means that the computer is able to detect user input and change the virtual world instantly. People love seeing things change on the screen in response to their commands and become captivated by simulations.



Figure 1: Virtual Reality (VR)

Source: Hussein and Nätterdal (2015)

The following are several reasons why Digital Virtual Reality Technology can be an effective platform for preserving Indonesian regional literature and culture:

1. Preserving Culture in an Interactive Form: VR enables the creation of realistic simulations of historical places, natural landscapes, historic buildings, and art objects. By utilizing VR, Indonesian regional literature and culture can be immortalized in an interactive form, allowing users to explore and interact with cultural content in a virtual setting.
2. Preserving Oral Traditions: Oral literature such as folk tales, legends, or fairy tales can be brought to life through VR experiences that present characters and environments in three-dimensional form. This allows the younger generation to experience and engage with oral traditions in a more engaging way and brings to life the cultural values contained in these stories.
3. Presenting Cultural Performances: In the context of performing arts such as traditional dance, VR can provide a real-life experience where users can watch performances from different points of view. With this technology, users can experience the beauty of dance

movements, the sound of music and the feel of the stage directly, without even having to be in the original location.

4. **Presenting Cultural Heritage with Interactivity:** VR can be used to create virtual environments where users can interact with art objects, historical artifacts, or other cultural objects. It provides an opportunity to explore and learn in depth about Indonesia's cultural heritage with interactivity that is not possible in a physical environment.
5. **Global Access:** Through a VR platform that can be accessed online, people from all over the world can experience regional Indonesian literature and culture without geographical limitations. It expands the reach of cultural preservation, introduces Indonesia's rich culture to a global audience, and promotes appreciation of cultural diversity.

By utilizing Digital Virtual Reality Technology, we can open the door for the younger generation and the general public to experience the beauty, wisdom and uniqueness of Indonesian regional literature and culture. This has the potential to strengthen proud cultural identity, increase cross-cultural understanding, and preserve rich cultural heritage in the future.

Although Virtual Reality (VR) has great potential in preserving regional literature and culture, there are several drawbacks to consider:

1. **Cost and Accessibility:** Implementing VR technology often requires high costs, especially for the required hardware and software. This can be an obstacle to widespread adoption of VR, especially in financially constrained areas. Additionally, not everyone has easy access to VR devices, so the potential audience is limited.
2. **Technical Limitations:** Although VR technology continues to develop, there are still technical limitations that need to be overcome. Some issues that may arise include suboptimal graphic quality, latency or lag time that may cause inconvenience, and limitations in physical space to implement an immersive VR experience.
3. **Lack of Haptic Experience:** One of the main drawbacks of VR is the lack of immersive haptic experiences. Haptic refers to tactile sensations and physical responses that can enrich VR experiences. In the context of cultural preservation, loss of haptic elements can limit the real-world experience gained by the user.
4. **Neglect of Social Interaction:** The use of VR in the preservation of regional literature and culture can reduce social interaction between users. In cultural activities that involve direct interactions between people, the use of VR can reduce the authenticity and social communication that occurs in real experiences.
5. **Content Limitations:** Although there is great potential in creating immersive VR content, currently the amount of VR content available for the preservation of regional literature and culture may still be limited. Greater efforts are needed to produce quality VR content, in accordance with the richness and diversity of Indonesia's regional culture.

It is important to be aware of these shortcomings in order to overcome the challenges and optimize the potential of using VR in the preservation of regional literature and culture. With proper efforts, these shortcomings can be overcome and VR can become a more effective platform for preserving rich cultural heritage.

The application of Digital Virtual Reality Technology has been carried out in various sectors and many people think that the existence of VR can make people more interested in

learning, as stated by Bell and Fogler (1997) "In technical education, VR provides a special feeling that will help convince students to learn more on the subject."



Figure 2: Student Learning Process Using Virtual Reality (VR) Technology  
Source: State Vocational School 1 Kebun Tebu (2022)

Apart from that, in the research of Hussein and Nätterdal (2015). they use VR with an astronomy theme to teach about the planets in the solar system by visualizing the planets and placing the planets in one perspective or another. The idea is to teach users through visual experiences and hands-on immersion. As a result, more students found VR to be an interesting and enjoyable experience.



Figure 3: Planets in the Solar System  
Source: Hussein and Nätterdal (2015)

Research conducted by Crosier & Wilson (2000) at the University of Nottingham. Crosier & Wilson researched the comparison of traditional teaching with teaching using virtual reality in science learning about radioactivity at the secondary school level. Learning using virtual reality using a virtual laboratory. This research also looks at individual differences, namely gender and ability to use computers. The findings of this study are a) Findings from the group



with low computer usage skills indicate that they need more hints and instructions when using the virtual laboratory. b) In contrast to the findings from groups with high computer usage skills. They showed a liking for using the virtual laboratory. According to them, virtual laboratories are easier to use and understand.

In another study, Pramesti, A. A., Sitompul, R. P., & Sopiya, N. (2022) concluded that virtual reality technology has been used in various areas of life starting from the world of entertainment, health, manufacturing, e-commerce, and education. Regarding the scope of research, VR technology can be a new means of changing classic learning methods into more interesting learning methods. VR technology such as HMDs and mobileVR can be used by students, in general students, to increase understanding, abilities and knowledge. Apart from that, students become more interested in participating in learning activities so that they can improve their learning experience and memory. VR can be used as a learning tool so that students can improve their technical skills, memory and analogical reasoning.

With existing research, the author feels that the existence of VR will be very helpful in preserving literature and culture in the Indonesian region by attracting people's attention to studying existing literature and culture in new and interesting ways so that existing information can be received better. By people. For example, we can collect data about wayang, starting from stories, wayang characters, puppeteers, types of wayang and so on. After that, we create an application that includes existing data and then makes it accessible using Virtual Reality, which can include stories that make VR users explore the role of one of the famous wayang characters, for example, Gatotkaca or Semar.

Of course this can attract more people to know about the world of wayang and attract people's interest in learning more about wayang. This method also allows data about puppets to be stored properly.



Figure 4: People Using Virtual Reality (VR) Technology

Source: Saurik, et al. (2019)

Not only are there advantages to using VR, there are also disadvantages to using this tool, as in Hussein and Nätterdal (2015), participants who took part in VR application testing, who used VR applications and devices for longer, felt headaches and some experienced nausea and disorientation. This can happen if there is a mismatch between the movement seen by the eyes and the movement felt by the body. This can cause imbalance or discomfort which then leads to headaches.

In its application, we can place VR in museums, public libraries, schools and universities, so that it can be reached directly by students. We can also create activities in collaboration between government and communities that can be accessed directly by the wider community.

## CONCLUSION

In this era of digitalization, there are many things we can do to preserve literature and culture in Indonesia, especially to increase people's interest in studying the very diverse literature and culture that Indonesia has. The author feels that advances in digital technology must be utilized so that the legacies of our ancestors are not eroded by time and worse, lost. With VR, we can deliver immersive experiences that allow users to experience and explore literary and cultural heritage from different parts of the world in an unprecedented way. Here are some ways in which VR can be used for literary and cultural preservation. By making wise use of VR technology, we can increase accessibility, understanding and appreciation of literature and culture around the world, and ensure that this heritage continues to be appreciated and preserved for future generations.

## SUGGESTION

Although more in-depth research needs to be done in the application of VR, especially in terms of creating an application that can cover all existing literature and culture, it is hoped that the government and the writing community can work together to make this happen little by little, for example by documenting existing literature and culture. Expensive costs may also be a problem that arises which the author feels can be overcome with the cooperation of the government and companies that can provide sponsorship for this conservation project. And problems that arise, such as headaches, disorientation, can be helped by limiting the time of use by creating Standard Operating Procedures for use. With a combination of literary and cultural heritage, deep immersion, technological advances, and creative potential, researchers feel Virtual Reality is an exciting and promising technology to change the way we interact with the digital world while preserving regional Indonesian literature and culture.

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