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Virtual tour

The report is about implementations of advanced technology of the 21st Century that provides a 360-degree panorama view without being in physical space.

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# **Abstract**

In the 21st century, innovation of technology has reached advanced levels like virtual tours, providing a 360-degree panorama view with a simulated environment, without being in physical space. This report is a brief overview of digital technology like Virtual reality and Augmented reality and their application like mapping Tuvalu digitally. The impact of virtual tours was also highlighted in this paper like, on different sectors, tourism support, education, mental health, economic growth, exploring the human organism, exhibition museums and forbidden locations during the COVID-19 pandemic as well as highlights the services that were provided at the time of pandemic to limited mobility people. Therefore, virtual tour technology offers interactive engagement experiences that go beyond physical limitations or without being in physical space and foster connectivity. By understanding all these things, we can make sure that this technology has become more advanced and has a positive impact in many sectors. Resources, expertise, technology, and feedback were the major factors that led to successful performance. Overall, Psychological well-being, knowledge discovery, virtual tours, and development of the technology sector are the significant key factors that were highlighted in this paper.

# **1.Introduction**

Until coming to this current 21st century. Mother Earth has encountered many kinds of situations and natural changes. Along the same line, its inhabitants have adapted here to the situation and innovations of the period like advanced technology and Virtual tours of the environment. Therefore, this is the technology of digital simulation of environments with a 360-degree wide-range view of the area with a series of images and videos and interactive spaces without physically being there. In essence, the reason to choose this topic is that it provides an unparalleled field to discover and involve our interactions with the Ambiance.

Thus, this research paper aims to show the uses of virtual tours using digital technology such as VR and AR (Maria, et al., 2021). And how it is implemented, Along the same line, the island nation, Tuvalu which is predicted to sink under waters in 100 years is being mapped and recreated in the digital virtual world. (Hodge, 2023). Moreover, to accomplishment this technology in multiple platforms there are some major factors like resources, technology infrastructure, technical expertise, Feedback, and improvement (Yong-Hyun & Daniel R., 2000) (Adriel & Jean Felipe, 2020) (Sanjeev , et al., 2022) (Tsering, 2020).

# **2.Literature Review**

# 2.1. Literature review on A Virtual Tour of the Cell: Impact of Virtual Reality on Student Learning and Engagement in the STEM Classroom.

In this modern era, the technology of virtual tours has also impacted the educational sector. Thus, a virtual tour is a virtual reality technology where the user feels an immersive experience or a whole new environment. Therefore, this paper highlights the educational impact of a cell biology course at Otterbein University. Where students were found engaged with Virtual reality to explore the cell and another human organism.

Furthermore, the paper shows that virtual reality technology has been used by patients as a type of therapy (Y.J. Daniel , et al., 2018). Along with this, the paper shows that virtual tour is also used in STEM classes with a unique active learning experience (Crispen, et al., 2018) (Angus P.R, et al., 2018). Therefore, a recent study around the world indicated that most classes still run the traditional lecture, so classes are rare (M., et al., 2018).

In conclusion, the paper reveals how the virtual tour has been implemented in the education sector and health sector. Additionally, the paper shows that Virtual reality takes the student on a tour inside the cell, where they can interact with tiny parts of the cell. Along with this, the paper reveals the voluntary survey about the virtual among the students at Otterbein University (Jennifer & Colin, 2019).

## 2.2. Literature review on Virtual Tour: Tourism in the Time of Corona.

Since the Covid-19 pandemic has massive impact on many sectors. Likewise, this research paper shows the influence of virtual reality technology on the hospitality sector during Covid-19. This paper also mentions the economic status of tourist places like Indonesia (Stefan, et al., 2021). Therefore, this research shows how the virtual tour has been useful to someone who lives away from their family, limited mobility, and resources.

Along with this, the research paper mainly used qualitative methodology and as a secondary source, this paper used a literature review. At where it addressed over 2,00 hotels and 8,000 restaurants have ceased their operation, (Lidya, 2020). Therefore, during the pandemic period virtual tours have been provided services through platforms like via Zoom and Google Meet, and other online platforms. Moreover, this paper highlights about experiences of those people who have engaged in virtual tours and the workers in the tourism industry (Faus, 2020).

Furthermore, Virtual technology helps to control vehicle emissions and reduces the carbon footprint. Apart from this the paper also shows that there were some weaknesses of the virtual tours like loss of actual travel sensation, no photo experience, and poor internet connection. In conclusion, this paper shows the challenge during the pandemic and virtual tours as a medium for promoting tourist places. Along with this the paper also the status of before and after Covid-19 (Dr. Yuyun & Addin , 2020).

## 2.3 Literature review on the impact of a 360° virtual tour on the reduction of psychological stress caused by COVID-19.

In this modern era, technology in the virtual environment has been recognized as novel technology. This paper highlights the effect of virtual tours on people's psychological status. Along with this, the paper contributed about the major two ways that lead to positive emotions like enjoyment and involvement. Those feelings that lead to positive emotions are called presence and telepresence.

Furthermore, the research paper highlights the concept of virtual tours and how people feel about virtual reality. Along with this, the paper addressed the use of the 360-degree virtual reality tour of the environment. Moreover, this enjoyment of virtual tours will reduce stress and improve mental health better (Kim, et al., 2015). Moreover, Virtual technology was found to reduce stress and improve their mental health (Anderson, et al., 2017) during the COVID-19 pandemic, ‘stay home, stay safe’ directive.

Overall, this paper reveals the context of understanding the difference in effects of telepresence and presence affect satisfaction with Virtual reality or virtual tour experiences and how psychological stress reduction through this kind of experience. Along with this, the paper shows that people are aware that these experiences are not real, but they are involved with Virtual experiences, Such as virtual reality sports events (Ko & Kim, 2019) (Ting, et al., 2021).

## 2.4. Literature review on the Knowledge Discovery and Virtual Tour to Support Tourism Promotion.

In recent times, as the world has become the global home, tourism has been recognized as a global industry. Where it supports the economic growth of the nation. Therefore, planning the trip with the information, and psychological influences are some important factors in Supporting Tourism (adhi, 2019). So, to overcome some issues and make the tour satisfying, in this paper, knowledge discovery and virtual tours have been mentioned as a major factor.

In addition to this, the paper highlights data mining can be used to analyze data, to discover patterns of choices made by tourist countries or by specific regions. which will help to match the tourist’s choice and trip planning. Along with gathering information, virtual tours provide a full view of the environment. Therefore, this will help visitors to understand what exactly the place is with 360 +180-degree images (Hera, 2015).

In conclusion, the paper aims to show the importance factor virtual technology which plays a major role in supporting tourism promotion. Along with this method of analyzing data, it helps to make the right choice (Gusti, et al., 2021).

## 2.5. Literature review on the UAV-BASED 3D VIRTUAL TOUR CREATION.

Over the last few years, innovations in game engine technology have triggered interest in virtual technology. Therefore, this paper aims to show how to design a 3D virtual reality tour of the Gebze Technical University’s southern Campus by transforming high-resolution data into a virtual environment.

In addition to this, the paper shows how to create a 3D virtual environment or artificial environment, by UAV- based mesh models imported into the Unity game engine. Therefore, with the creation of this 3D Virtual tour, the user can remotely explore the whole campus within a realistic image and digital environment. Additionally, the paper shows that the UAV data is used in various tasks like surveying ancient areas, inspecting buildings, and analyzing damage (H. & Li, 2006) (Jose Luis & Fernandez-, 2015).

In conclusion, this research paper shows the 3D virtual tour with a panoramic view and the process of creating a different virtual environment. Besides this, the paper also highlights photogrammetry. Where the special kind of math is used to figure out or to accurate 3D models with details (U. G. Sefercik, et al., 2021).

# 2.6. Literature review on Evaluation of virtual tour in an online museum: Exhibition of Architecture of the Forbidden City.

In this research paper, it aims to show how virtual tours are becoming a major part of education and research. This paper aims to show an exhibition of online museums. Therefore, the paper shows that an electronic or virtual museum is called the Online Museum (Schubert , 2008). Along with this, the paper establishes a scale to evaluate the functions or work of this online virtual tour.

Furthermore, the paper reveals that online museums go beyond physical time, and they can update the museum collection, assets, research, and educational tools at any time. Therefore, they can expand things like operating or opening times and size of museums. Additionally, the paper shows that evaluation has four scale ranges: authenticity, interaction, navigation, and learning. Moreover, this paper shows how the Forbidden City showcases its architecture through online virtual tours. In conclusion, the paper shows the online exhibition and evaluation scale of their work (jia, et al., 2022).

## 2.7. Literature review on the Virtual Tour 360 Degree Panorama.

In this modern era, technology has innovation radially in many sectors. Likewise, the paper aims to show the application of virtual tours. In addition to this, the paper highlights the effectiveness of 360-degree panorama virtual tours.

Furthermore, research methodology is employed in this research paper. Therefore, current developing technology makes information more users interactive, and impactful (Yogi & Guntur Maulana, 2021). Along with this, the paper highlights that 360-degree video and 360-degree multi-image panorama virtual tours were some of the media of virtual tours. In conclusion, the prime focus of this research is the effectiveness of virtual technology 360-degree panorama as a powerful platform for promoting specific locations (IIham, et al., 2022).

# **3. Conclusion**

In conclusion, the paper reveals the diverse impacts of multiple features of virtual tours. Therefore, the effects of virtual tours like economic growth, promoting the places, education use as well as research and exhibitions of forbidden places or museums, and reducing psychological stress were highlighted in this paper. Therefore, the paper highlights that the virtual has been an instrument tool for guiding the challenges posed. However, they also come up with disadvantages such as poor internet, limited resources, lack of social interaction, and quality of content or inaccuracy information.

Overall, the paper highlights the significant aim of usability, virtual tour creation, knowledge discovery and virtual tours, and technological innovation in the development of virtual tours. Along with this, the paper aims to show questions of how it offers transformative experiences, connecting the tangible and virtual worlds. Similarly, all the literature reviews above put forward there are several areas required for future study of virtual tours for long-term effectiveness, community engagement, and global perspectives.

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