Reimagining Art: Virart, a Platform Using Virtual Reality for Creative Expression and Cultural Engagement

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Abstract: Virart is an immersive experience that showcase the potential of Virtual Reality in recreating artistic works. By leveraging the capabilities of VR, users can explore and interact with digital recreations of Júlio Maria dos Reis Pereira artistic creations. The VR environment enhances the sense of presence and enables viewers to explore the art from different angles, offering a deeper level of engagement compared to traditional mediums. By showcasing the possibilities of virtual reality in recreating artistic works, Virart opens new avenues for artists, art enthusiasts, and the general public to appreciate and engage with art in innovative ways. It demonstrates the potential of virtual reality technology in preserving and promoting cultural heritage, allowing art to be experienced beyond physical limitations.

1 Introduction

The fusion of art and technology has been a recurring theme throughout history, from the invention of the camera to the rise of digital art. However, virtual reality (VR) has taken this intersection to unprecedented heights. VR art galleries, immersive digital environments designed to showcase artworks and exhibitions, have opened up a new dimension in the art world. These digital spaces not only replicate the experience of visiting a physical gallery but also enhance it through interactivity and accessibility.

Virtual reality in the context of art has evolved rapidly over the past decade (Kim, 2016). Early experiments with VR art often involved simple 3D modeling and animation. However, advancements in hardware and software have enabled artists to create highly detailed and immersive virtual environments that rival physical galleries.

Artists have embraced VR as a medium for artistic expression. They can sculpt, paint, and manipulate digital materials in ways previously impossible, pushing the boundaries of creativity (Gräsler and Taplick, 2019), (Gong and Georgiev, 2020), (Graessler and Taplick, 2019). VR art provides a unique platform for exploring new artistic forms and experimenting with the multisensory aspects of artistic expression.

One of the most compelling aspects of VR art galleries is their ability to democratize access to art. Traditional art galleries are often limited by physical location, opening hours, and admission fees. VR galleries eliminate these barriers, allowing anyone with a VR headset and internet connection to explore art from around the world, 24/7 (Shehade and Stylianou-Lambert, 2020), (Lee et al., 2020), (Carrozzino and Bergamasco, 2010).

Furthermore, VR galleries can create inclusive environments that accommodate people with disabilities. Through customizable interfaces and assistive technologies, individuals who may

face challenges in visiting physical galleries can engage with art on their terms (Drigas et al., 2009).

Virart is a project developed in an academic context with the aim of better understanding the relationship and interdependence between the artistic, technological and conceptual areas of multimedia and painting, allowing an in-depth exploration of the selected tools and a growing capacity for project development.

An artistic reconstruction experience was developed in which the user finds himself in a gallery with the works of artist Júlio Maria dos Reis Pereira. Presents four works of art (Figure 1) by Júlio Maria dos Reis Pereira offering users the opportunity to explore and admire the paintings in a three-dimensional and interactive way.

This project assumes a multidisciplinary and transdisciplinary nature, and aims to offer a different experience, taking the user to an unknown context, through the use of technological devices that allow a new model of interaction with works of art.

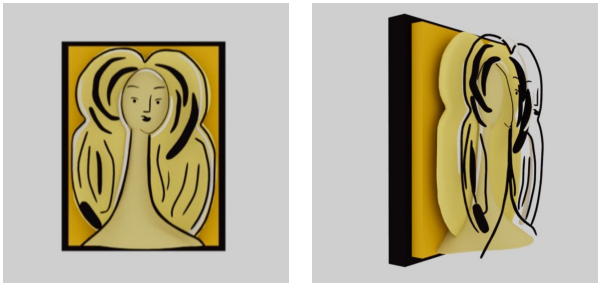

Figure 1: Original Painting and 3D Recreation

2 Materials and Methods

The project was developed in the following steps:

1. Definition of Concept and Goals: The creation of an artistic reconstruction experience using works by Júlio Maria dos Reis Pereira, creating an immersive experience and demonstrating the possibilities of 3D art.
2. Research: Study of Júlio Pereira's artistic work and choice of works of art for 3D recreation
3. Study of existing VR museums to understand best practices and get inspiration.
4. Content Planning: Creation of a detailed content plan outlining the space, works of art, light, sound and interactive elements.
5. Choosing VR Technology: Use of the Oculus Quest 2 as they offer a combination of image quality, precise movement tracking and interactive features.
6. Develop 3D Models and Assets: Creation of models using Maya. Development of textures, animations, and audiovisual elements to enhance the experience.
7. Design the VR Environment: Design the virtual museum space, including layout, lighting, and navigation. Consideration as visitors will move through the exhibits and interact with the content.
8. Programming and Development: Use of game engine Unity.
9. Implementation of interactive elements, navigation systems, and user interfaces.
10. Content Integration: Integration of 3D models, textures, audio into the VR environment.

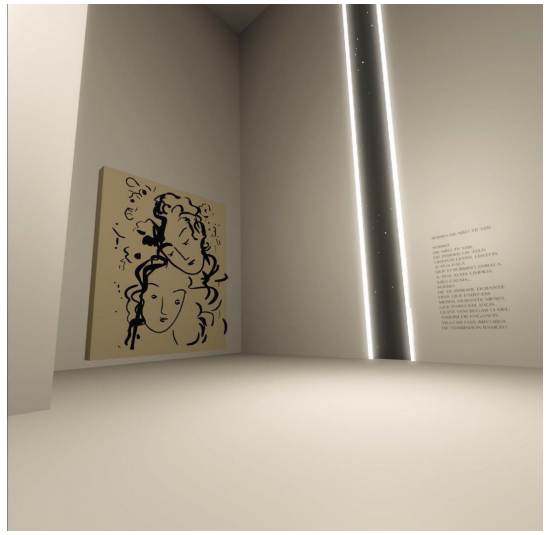

Figure 2: View of the art work

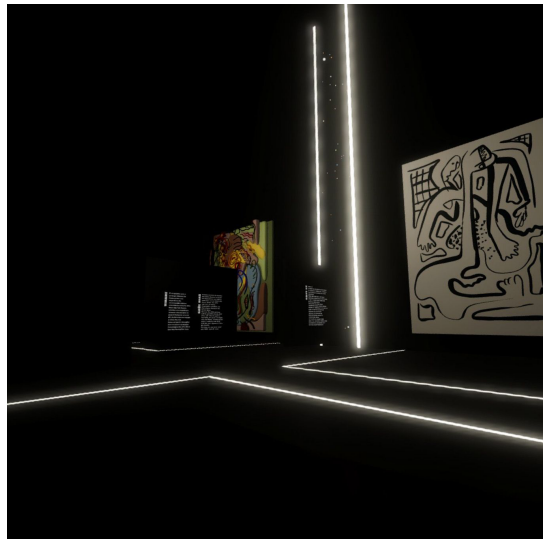

Figure 3: View of the gallery Dark Mode

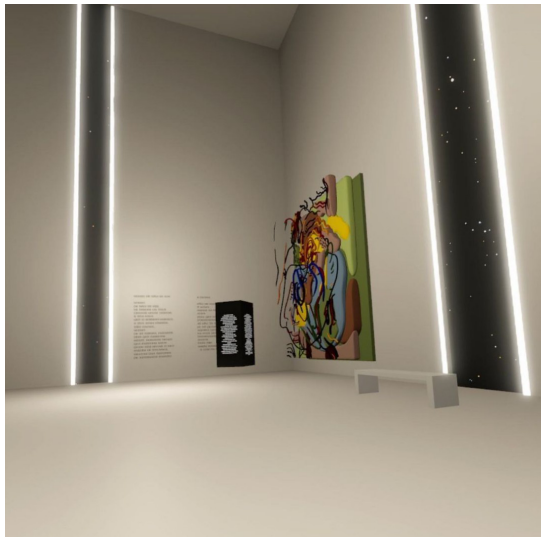

Figure 4: View of the gallery

3 Results

When exploring perspectives as different ways of seeing a reality, it is similar to observing a certain event from several different angles. Through this approach, the Virtual Reality art gallery provided users with a unique immersion, allowing them to explore and appreciate works of art in diverse ways. Define a model that can serve as a basis for creating interactive virtual exhibitions, collaborations with other artists and cultural institutions, and even inspire new approaches in the field of art and technology. Furthermore, the continuity of the project may allow the expansion of the collection of works by Júlio Maria dos Reis Pereira and the creation of new immersive experiences, further enriching the artistic legacy.

4 Conclusion

In future work we plan to define a model that can serve as a basis for creating interactive virtual exhibitions, collaborations with other artists and cultural institutions, and even inspire new approaches in the field of art and technology. Furthermore, the continuity of the project may allow the expansion of the collection of works by Júlio Maria dos Reis Pereira and the creation of new immersive experiences, further enriching the artistic legacy.

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In conclusion, Virart has proven to be a dynamic and innovative platform, capable of broadening artistic horizons and stimulating creativity. By exploring different perspectives and offering a unique experience, it redefined the way works of art can be appreciated and interpreted, highlighting the power of technology to enrich and revolutionize the world of art.

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