

# The Research on the Characteristics and Forms of Immersive Experience in Art Exhibitions—Take “Van Gogh—the Immersive Experience” as an Example

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**Abstract.** Immersive experience is a new type of interaction that integrates culture and technology, and it shows great promise for application by combining with multi-panel content. With the continuous development of virtual technology, immersive experience is also applied to art exhibitions and obtains surprising effects. People are not satisfied with the original way of art appreciation, and the increase of aesthetic demand also requires more diversified ways of exhibition, which has led to the prevalence of immersive exhibitions. In recent years, there have been few attempts at immersive art exhibitions, and the organizers have succeeded in creating very creative presentations. This paper takes “Van Gogh’s Secret World” as an objective, and the result shows the features of the immersive experience, include the concept and history of immersive experiences, and the expressions and characteristics of immersive experience in art exhibitions, hope can help people look into the future of the interactive art.

**Keywords:** immersive experience, art exhibition, art expression, van Gogh

## 1. Introduction

Art exhibitions are both an integrated expression of art lovers’ access to information, communication, and entertainment, as well as a marketing medium that fully explores the five senses of artworkers in face-to-face communication with them. In the development of art exhibitions over the years, the display medium has been constantly updated. The immersive experience is extremely spatial, with different tools (such as sound, touch, VR, etc.) to immerse people in a specific scenario. The direct participation of the audience is a visual narrative feature of immersive media. The audience is both the experienter and the creator of the immersive narrative, which means that immersive narrative is centered on the audience’s experience and leaves the initiative of information acquisition, generation and dissemination to the audience [1]. Nowadays, the design of the environment is becoming more open and diversified, and the art exhibition and the viewer are given a different relationship. Compared to viewing works through glass, the immersive experience breaks the “fourth wall” of the art exhibition and uses the openness of the spatial structure to create a unique experience that blurs the boundaries. The Figure 1 shows a typical form for immersive experience used in art exhibition. Also, the author chose the example “Van Gogh-the immersive experience” as a typical representative of narrative space. Van Gogh’s Impressionist works were inspired by the revolutionary art trend and Japanese painting, forming a style of free expression of emotions, and works with strong emotional elements are always the best partners for immersive experiences.



**Fig 1.** An immersive exhibition creates by Teamlab

This paper provide idea by examining the use and characteristics of immersive experience in art exhibitions. In the Journal of Shanghai University of Finance and Economics, it is pointed out that immersive experience is an “experience activity built on digital quasi-objects with spatial contextualization as the core business”, and that immersive experience has strong interactive and spatial shaping abilities by nature. This characteristic of immersive experiences has been discussed in many different articles, but unfortunately rarely linked to art displays. In his article “Museums in VR,” Pei Yan points out that VR technology and cutting-edge interactions show the artwork in its original form in all its glory. While one side focuses on immersive experiences, the other focuses on VR creativity and artwork presentation. The design of immersive exhibitions introduces innovative sensory experiences that allow the audience to immerse themselves in the experience and meet the sensory expectations of museum exhibitions in the new era, allowing the audience’s multiple senses to be mobilized to participate in the interactive experience of museum immersive exhibitions. More media forms of immersive experience can also be used for artwork appreciation [2]. The art exhibition “Van Gogh—the immersive experience” selected in this paper combines VR, touch, sound, and other immersive experience mediums to successfully introduce visitors to Van Gogh’s world. The author examines the use of immersive experiences in Van Gogh’s Secret World and why it is successful and discusses the possibilities for more immersive experiences in the future, it elaborates the expression of immersive experience and discusses how to make visitors feel the beauty of paintings by adding immersive experience in art exhibitions. Some scholars point out that the current emerging media have taken on an independent existence, a physical life or a virtual form. This means that in the near future, as exhibitions become more interactive, viewers will need to connect with exhibits through such “independent beings” [3].

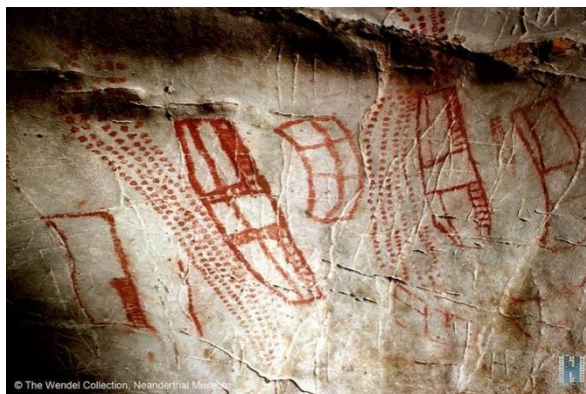
This paper is divided into two main parts. The first part focuses on the history of immersive experiences and the main features of the “Van Gogh Mystery” example. The second part discusses the various forms of immersive experiences in art exhibitions and the use of immersive experiences in “Van Gogh’s Secret World”. Finally, this paper will look at the future development of the two in relation to each other.

## **2. Features of the Immersive Experience**

### **2.1. Concept and History of Immersive Experiences**

The immersive experience is a product of the fusion of culture and technology; it creates an artificial “perception, experience, memory system” through the latest technology [4]. Immersive experience can take many forms, including immersive experience in the network, immersive experience, and immersive experience in sensory interaction, to name a few. Immersive experience, from the standpoint of artistry, is a catalyst for self-realization. By guiding the audience to participate, audience contact, and audience creation, the artist may satisfy the audience’s emotional demands and actualize the audience’s self-worth. The audience can also see that the expression of realizing self-worth has a dual nature, with one side representing the artist’s self-worth and the other representing the experiencer’s self-worth. As a result, the two are tightly associated in terms of the vital relationship, and they are also key parts that make up an immersive experience.

Immersive experiences have been pursued by humans since ancient times, and its medium is constantly changing. From ancestral times, the “immersive experience” was the most primitive, “pretending”. There is an old Bible proverb: “There is nothing new under the sun”. The so-called “immersive experience” has been around since ancient times. Ancient ancestors used to “talk around the stove”, listening to the older generation recounting the thrilling experience of hunting prey, making up their own imaginary images, and enjoying themselves [5]. The earliest known immersive endeavor is the early cave paintings. In new research by an international team of archaeologists led by Alistair W.G. Pike of the University of Bristol, England, it was determined that these red cakes from El Castillo cave are the earliest known wall decorations, at least 40,800 years old, the Figure 2 shows the red figure on the cave painting, writer consider this as a earliest.



**Fig 2.** The red wall painting in El Castillo

In later studies, people found that early Homo sapiens used fireplaces and lamps to create the flickering effect of fantasy creatures. As one can imagine, man's exploration and pursuit of imagination began at a very early age. By the Middle Ages and even the Renaissance, 360-degree painting became a trend. For example, the famous Bubaki 360-degree ring field large fresco engraving and cover breathtaking immersive paintings.

The immersive experience expresses a high human value. As stated in *A Brief History of Mankind*, "The ability to tell fictional stories was an extremely important leap in the evolution of mankind..." As an artistic vehicle, immersive experiences are flourishing with the development of technology, which amplifies the latitude of virtual stories and presents people with unprecedented and shocking experiences. Nowadays, immersive experiences are not only available as entertainment. Relying on the current level of development, immersive technologies and products can be applied to engineering, medical, training, agriculture, rescue, logistics, military, and many other fields. The current immersive experience is becoming one of the new industries in the field of cultural industry with very strong innovative vitality and rich and diverse expressions.

## **2.2. Artistic Expressions of Immersive Experiences**

immersive experiences can be presented in a variety of ways. In addition to the forms of painting mentioned above, there is another form worth mentioning - theater. The theater has an immersive quality, in which the audience is absorbed in the performance, creating a strong sense of emotional resonance and immersion with the actors. Nevertheless, the theater also has an obvious flaw, which is often referred to as the "fourth wall" by theater lovers. The fourth wall means the gap between the actors and the audience, that is, it is difficult for the two sides to interact, and it is very difficult to break through the fourth wall.

With the development of modern technology, communication media has brought about a sea change in the immersive experience. In the novel "Pygmalion's Glasses" published in 1935, the characters wore virtual reality devices that allowed them to feel the senses of touch, smell, and other sensations. In later studies, some scholars believed that Pygmalion's glasses were a blend of imagination, technology, and love. This imagination continued until the late 1960s, when the integration of electronic devices into virtual reality environments became possible. The "Sword of Damocles" is considered to be the world's first HMD (Head Mounted Display) system. Just as many advanced devices were developed for the military, VR was utilized by consumers in later years. Today, there are a variety of VR devices and applications for consumers to choose from. In terms of artistic expression, the digital space of virtual reality art presents a powerful creative freedom and is developing its own language system. As a representative of the practical application of virtual reality art, the VR Museum provides a comprehensive demonstration of the functionality of VR and AR technologies. Visitors put on HMD devices, guided tours naturally disperse in every space, and they can zoom in to see every detail of the paintings, an experience never before available in a real museum. At the same time, the VR Museum uses the logic of interaction in an extremely innovative way for immersive experiences. In the application "Woofbert VR", the paintings are displayed from the first

viewpoint, often giving the viewer a strong sense of immersion and engagement. In addition, the augmented reality technology of AR is also used in the field of immersive experience. The previous hit game Pokémon Go is based on AR technology to create an addictive gaming system that combines realistic scenes and virtual battles to give players a sense of immersion in the game.

Despite the difference in devices, immersive experiences can be broadly classified into three categories in terms of artistic expression: pure spatial context, interactive context, and narrative space [6]. Pure spatial context is the author's output of artistic emotion to the audience, and the audience is passive at this time. Interactive contexts, on the other hand, focus on "communication" and "interaction", where artistic expression becomes more important, and the audience's participation is stronger. Finally, narrative space represents "storytelling", using space to create a sense of atmosphere.

### 3. Expressions and Characteristics of Immersive Experience in Art Exhibitions

#### 3.1. Features of Exhibition "the Van Gogh—the immersive experience"

The Van Gogh—immersive experience exhibitions are recent immersive experiential art exhibitions that have been held around the world. These events take place in cities around the world and are often set in large gallery spaces. Images or videos of the artist's work are projected onto walls, ceilings, and floors, sometimes accompanied by animation, narration, music or perfume. In the Shanghai exhibition, for example, the first section focuses on 3D projectors that project Van Gogh's paintings onto the walls. The second exhibition area focused on interactive art displays. The third exhibition area is set up with an aesthetic classroom with Chinese characteristics, where children can play happily. The exhibition hall is not large, but each area has been carefully designed. For example, in the interactive artwork section, Van Gogh's classic paintings "Starry Night on the Rhone" and "Crow on the Rye" are set up and will change patterns and effects when touched. It is worth mentioning that the naked-eye VR area in the exhibition area gives visitors a subtle sense of "viewing a painting within a painting", a giant immersive naked-eye VR with a certain sense of vertigo while restoring the real sense of vertigo of Van Gogh's late painting. People can see in Figure 3 that the whole exhibition area is wrapped in Van Gogh's famous paintings, it presents a beautiful picture, such a collision effect is excellent. Naked-eye 3D gives a richer artistic effect than simply projecting the painting on the screen, and this attempt is generally successful in the exhibition.



**Fig 3.** the naked eyes VR exhibition area

The exhibition, which utilizes an immersive experience, was undoubtedly a huge success. Through the path from the church to the exhibition area, an immersive installation puts visitors in the shoes of Van Gogh and what made him great. The unique design of this exhibition brings a richer artistic expression and case for immersive experiences, allowing us to examine the significance and future development of immersive experiences for art exhibitions.

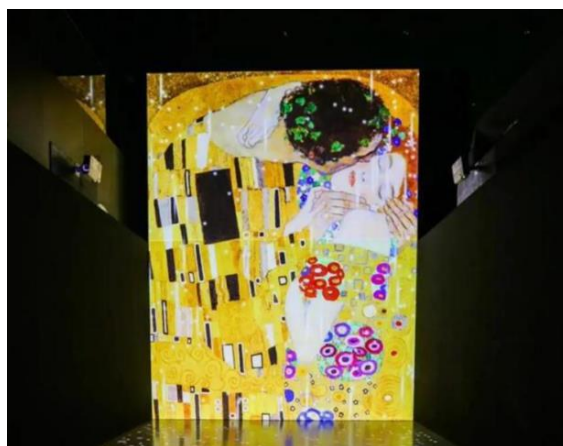
While reaping great success, Van Gogh's exhibition also received varied skepticism. During a trip to Paris, art professor C. Shaw Smith visited L'Atelier des Lumières, a cave-like space that pioneered the projection of the legendary artist's work in a large-scale, high-resolution format [7]. He argued

that the Van Gogh immersion exhibition was about installation design and environmental design, and that the sense of art was rather diminished [8]. This view dovetails with the artistic purist manifesto that “purism does not want to be the art of science,” and that purists consider immersive experiences to diminish reverence for originality. Some visitors also reflected that the wall projection, in addition, in the long run, the exhibition loses its independent character of self-thought and becomes a vulgar and common emotional outlet. Over time, the exhibition loses its independent character of art as self-thought and becomes a vulgar and common emotional outlet [9].

### 3.2. Van Gogh—the Immersive Experience Exhibition Presentation

The main expression of Van Gogh—the immersive experience is the interactive space as well as the narrative space, which is currently the exhibition method mostly used in art exhibitions.

The first sector mainly involves somatosensory interaction. Somatic interaction technology interacts with the installation by means of body movements, eye rolls, facial expressions and other body changes, and the computer recognizes and analyzes the user's movements and gives feedback [10]. For example, visitors can create auroras in the starry night and add color to Van Gogh's famous paintings. Many children love to gather in this area, which has inspired thinking about the educational implications of somatic interaction “games”. The interactive technology not only became a creative tool for art education, but also made hands-on skill development and practice more efficient and brought more hands-on fun to children. The second panel, and the most mainstream one, used naked eye VR technology. Several large screens surrounded the exhibition area, creating a space to display the paintings in 360 degrees. Cleverly, the flawed-glare of naked-eye VR allows visitors to feel the difficulty of painting in Van Gogh's later years, with a stronger sense of immersion. Finally, there is the most common use of projection technology, and relatively speaking, projection art is the most developed and easiest to arrange of the three. The combination of painting and projection allows for a very direct visualization of the painting, allowing people to appreciate it from different perspectives as they learn and appreciate it. What some paintings lack is a “viewer” who finds beauty from different angles.



**Fig 4.** a hallway of the exhibition

The presentation of the Van Gogh Mysteries exhibition is generally rich. The curators have delved into the tone of Van Gogh's works and cleverly integrated them into spaces with different forms of expression. The exhibition is infinitely inspiring and shows that the future of the fusion of art and technology is limitless.

## 4. Conclusion

Immersive experiences are not a recent human pursuit, early Homo sapiens have maintained a fantasy of the unknown since ancient times. One could even argue that immersive experiences are profoundly linked to human evolution. Nietzsche suggested in *The Birth of Tragedy - Selected Essays*

on Nietzschean Aesthetics that when the god of the day and the god of wine (representing the plastic and musical arts) merge, it is when the protagonist falls into oblivion.

With the development of technology, the romantic fantasy of Pygmalion's Glasses has gradually become a reality, and immersive experiences have been applied to various fields such as medicine, military, and business.

In the field of art exhibitions, the future of immersive experiences is unlimited. Whether using different forms of immersive experiences or motivated by different artistic expressions, immersive experiences bring art experiences into a new era, in a way that catches people off guard. Van Gogh—the immersive experience is the key to a new world, or a steppingstone to a new world, in which writer can find the future of art exhibitions (or even digital art exhibitions). In terms of features to forms of expression, art exhibitions and immersive experiences are an unbeatable match.

This paper examines the characteristics and manifestations of immersive experiences in art exhibitions and discusses the possibilities of immersive experiences in the future of art display. This area of development has unlimited potential, and new ways of interaction allow people to observe artworks through different perspectives, and it is hoped that more technical support for the development of immersive experiences in art will be available in the future.

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