A Virtual Museum Configuration Method with Visitor's Interest-Driven Appreciation

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***Abstract*— In order to increase the number of visitors who have decreased due to the new coronavirus infection, existing "real" museums and art galleries have been actively being converted to VR. However, exhibition methods that take advantages of VR features have not yet been established.**

In this paper, we propose an exhibition concept unique to a "virtual" museum that combines a viewing method of paintings in VR according to the display order designed by curators, and a viewing method of the visitors that dynamically rearranges the display order in which the paintings are displayed based on the interests.

Keywords*— *Virtual museum configuration, visitor's interest-driven appreciation, dynamic rearranged display order

I. Introduction

Due to the influence of COVID-19, we have become hesitant to go to art galleries and museums to appreciate art works. Virtualization of museums and art galleries has been actively promoted. However, HMDs (head mounted displays) have not been widespread, and 3D modeling is the heavy cost of introducing VR. For these reasons, many museums and art galleries have been limited to displaying 360-degree panoramic images of conventional (permanent) exhibitions.

In this paper, we propose a virtual museum configuration method providing not only a virtualized museum-type viewing, but also a visitor's interest-driven viewing in the virtual world.

II. Proposed Method and System

One of the most common methods of display at art gallary and museum is to arrange the paintings in chronological order (Fig.2 (right)). It is possible to see how the artist grew as he/her grew older, and how he/she established a new style of painting by overcoming his/her problems, struggles, and anguish in painting.

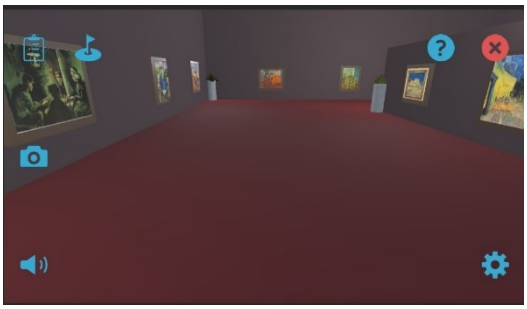

Figure 1. Main screen of our virtual museum.

When looking at the exhibits in chronological order, we notice the motifs favored by the artists and are tempted to view works with the same motifs or compare them with those of other painters of the same generation. Figure 2 shows the exhibits arranged in a small exhibition room, focusing on the place where Van Gogh lived and the period when he painted many portraits of the common people in the neighborhood.

It can be said that such exhibitions based on the visitors interests are possible only in virtual spaces. We propose and develop a virtual museum system with an extended browsing function that allows you to select other exhibits while viewing one exhibit.

In these small exhibition rooms, exhibits related to the original exhibits, by motif, by art materials (oil, watercolor, croquis, etc.), works of art by related artists, etc., are displayed. This exhibition style allows visitors to delve deeper into the subject of their interest and appreciate it.

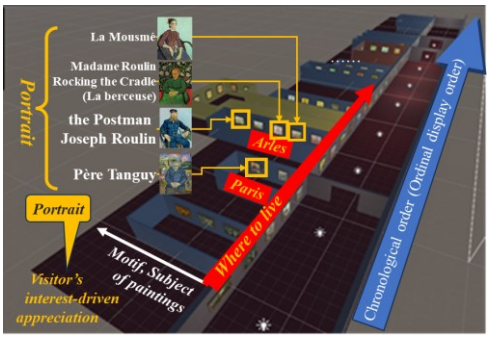

Figure 2. Display based on visitor's interest-driven appreciation.

III. Conclusion

We have proposed a virtual museum configuration method and developed an interest-driven exhibition and appreciation system. The system has to search manually works of interest in advance and to prepare a small exhibition room. Auto-search and small exhibition room preparation will be future tasks. We will also evaluate the usefulness of the interest-driven appreciation in the future.

Reference

[1] https://en.wikipedia.org/wiki/Vincent_van_Gogh (2023/08/22 accessed)

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