Survey and Analysis of Interactive Art Documentation, 1979–2017

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Abstract

Today, documentation is becoming a major source of exposure and appreciation for artworks on the Internet, beyond the original purpose of preservation and academic archiving. This study analyzes 982 documentations of interactive digital art projects created between 1979 and 2017. Each documentation was represented as a point in a 17-dimensional vector space through binary encoding. The resulting visualization from the t-SNE algorithm shows that, compared to its phenomenological quality, most documentation of interactive art is a cinematic surrogate that follows film post-production techniques. In conclusion, this study calls for the development of documentary techniques that can provide the viewer with a quasi-authentic experience of the original work in interactive digital art.

Andre Malraux insisted on an imaginary museum as a virtual museum of photography [1]. Although art that can enter a real museum is limited, digital technology places the imaginary museum on another dimension. Europeana Collections has created a virtual museum that makes European cultural and scientific heritage accessible to everyone [2]. More than 3,000 institutions across Europe have provided access to their artworks. This allows many people to enjoy European art at home via the Internet. In addition to the huge (or well-organized) archive, the Internet has enabled the documentation of artwork to be consumed in decentralized (rhizomatic) ways through independent artists’ websites and social network services including Facebook and Instagram.

When representing original works on such platforms, technical and contextual attention are needed to allow the appreciation of the actual original [3]. Static art forms such as painting and sculpture have been the focus of much research on documentation methods [4]. Many suitable technologies, such as scanners capable of two- and three-dimensional scanning, are being developed. In particular, the dramatic development of sensor technology seems to be leading to the realization of the imaginary museum proposed by Malraux. The Google Art Project has reproduced over 30,000 works from 151 museums in 40 countries in gigapixel resolution [5]. Viewers can thus observe delicate brush strokes in a painting.

While documentation techniques for static art have utilized the increased resolution of scanning devices, little research has been done to develop documentation techniques for computerized and time-based art [6,7], such as new media and interactive digital art. Unlike traditional forms such as painting and sculpture, interactive digital art uses computerized media to create dynamic interaction with viewers; viewers’ phenomenological experience is the main creative motivation. However, it is difficult to create documentation that completely captures the originality of the work revealed by the audience’s experience. This is not simply because the still image cannot represent the temporal transformation [8], or because our understanding of interactivity continues to change [9]. Rather, interactivity is not a set of things that have already happened but a set of all possibilities that may arise between an active audience and a work.

As a result, today’s new media artists are producing and distributing documentation of their work without formal standards [10]. In this context, this study aimed to understand how the documentation of interactive digital online is mainly produced and how the characteristics of such documentation can affect the viewer’s appreciation.

Survey and Analysis of Documentations

Whereas previous studies were primarily aimed at proposing better documentation methodology in terms of preservation of time-based arts [11], this research focused on understanding the phenomenon itself; documentation is used as a means of appreciation online. Today, interactive art is made available to the public through a variety of online archiving sites. Among them, we investigated 982 documentations recorded in the Archives of Digital Art (ADA) [12] and CreativeApplications.Net (CA) [13], two of the most representative channels. The ADA is an academic open-access database for digital art, and CA is a blog that selectively introduces the work of influential media artists. By including these two sites for different purposes, we could analyze the general aspects of the documentations that are most often encountered by viewers on the Internet.

When we searched for works in ADA and CA with the keyword “interactive,” we obtained 361 and 590 results, respectively. Multiple documents for one work were counted as unique cases, and a total of 982 documentations (796 unique work) between 1979 and 2017 were selected. The main media used in the selected works were 248 display-based, 278 sculptural-based, 231 projector-based, 52 mobile phone-based, 21 iPad-based and 19 website-based. The remaining works were not clearly classified as belonging to a specific medium.

We manually analyzed the selected documentations with respect to the following questions: (1) Is there a picture or video record of the work? (2) If a video clip exists, does it have an arbitrary cut interrupting a continuous take? (3) Does the work include a video clip that actually interacts with ordinary audiences? (4) Is there a description of the implementation process and mechanism of the work? (5) Has any background music or actual sound of the exhibition site been presented? (6) Does the video include an interview with the artist? (7) Is a narration recorded by the artist included? (8) Does the video have subtitles? (9) Does the video clip record a situation in which people of various genders and ages interact with the work? The answers to these questions are related to how well the documentation is intended to convey the viewer’s phenomenological experience.
experience, not just the passive visual appearance. See the supplemental file for the results of the survey.

If the answers to the above items are expressed in binary encoding, we can represent each documentation as a feature point in a 17-dimensional vector space. Points in such a high-dimensional space must be mapped to a two-dimensional plane to be visualized. For this, we used the t-SNE algorithm (perplexity = 60, learning rate = 60) provided by MATLAB, which allows the relative distance relationship between the points in the high-dimensional space to be maintained after mapping to a two-dimensional plane. Thus, the data points are visualized in several distinct clusters. Figure 1 shows them colored by the year of creation. The more recent work is located in left clusters. The documentation of recent work on the left forms clusters that are more spread out, suggesting that they are produced in a more diverse way than previous works.

By painting each point with other properties, we can see how interactive art documentation has changed over time (see Fig. 2). Here, the age at which each cluster in Fig. 2 belongs can be found together with Fig. 1. The results of this analysis can be summarized as follows: (1) In the early (1990s) era of computer-aided interactive art, its documentations were mainly recorded as photographs (high concentration of data points to the right), while today’s documentation is mostly based on video media. (2) In addition, videos contain more and more of the artist’s own post-production (such as montage and background music) rather than recording the phenomenon as it is. (3) Recent documentations have described interaction with a designated person as a player with isolation from the actual audience. (4) In addition, recent documentation often includes self-descriptions and/or subtitles.

These facts indicate that the documentation of interactive art today is not a record made for faithful delivery of the original phenomenon but a cinematic and descriptive performance. Video clips overly refined by artists can manipulate viewers understanding by cinematizing and verbalizing the phenomenon experienced by the audience in the actual gallery.

**Conclusion**

Our survey reveals that documentation of interactive art is becoming more descriptive and only emphasizes its text, or concept. It does not show how the work interacts with normal visitors. It does not entail a real experience but the artist’s expression or explanation. It is an artificial record to explain how the art ideally works that has been edited with a commercial-film-like skill.

If the main purpose of the documentation of interactive art is to provide authentic experiences of interactive art, documentation needs to stop enforcing its messages in cinematic and descriptive ways. Instead, documentation should be made up of a phenomenological epoché, which allows visitors to analyze the phenomenon of an event by blocking biases and assumptions so that the audience can concentrate on the consciousness of the work. Furthermore, artists should consider their documentation of interactive art as important as the artwork itself.

Finally, this survey suggests that artists should research a variety of ways to document their projects. These can include the latest emerging technologies, such as virtual reality [14], augmented reality or spherical panoramic photography [15]. In addition, beyond the individual artist, the whole ecosystem [16], including galleries and curators, should strive to establish standards for documentation methods. This will support the appreciation of interactive art as it is and enhance understanding of its historical significance.

**Fig. 2. Plots of t-SNE colored based on some features of the documentation. (© Ji Yoon Jang)**

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**References**

11. Wharton [6]; Variable Media Network [7].
15. Wharton [6].