

## A Study on Interaction Techniques in Media Art of Multi-Display Environment

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**Abstract.** In this study, there is some suggestion that the study of interaction techniques can improve the value of media art works. Multi-display storytelling-like interaction is more suitable method than the interactive storytelling in creative results or production works because of the physical space movement, time flow caused by movement, continuous exposure in storytelling phases. To prove this, a user-scenario of the media art is designed to be reach the final completion phase through the process of audience involvement on multi-display based on the contents manipulation interaction design and interface development technology and based on that.

**Keywords:** Storytelling-like Interaction, Media Art, Multi-Display, Kinetic Typography

### 1 Introduction

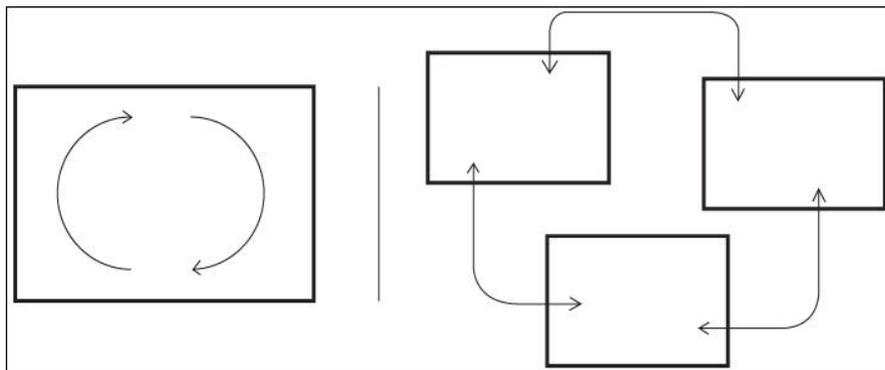
The concern for multi-display is significantly growing due to social and industrial demands based on IT technology such as N-screen, and the dynamic and various expressions provided by multi-display environment are being a momentum for increasing the artistic value of the works by inducing more active involvement of audiences with regard to the works in the media art that the state-of-art media technologies in both software and hardware were integrated. Because of these reasons, although a demand for multi-display in the media art is consistently increasing, it is a fact that the study on contents implementation technology and methods using multi-display is still initial stage. Especially, the interaction with audiences, in the characteristic of media art, is a very important factor in expression and it is thought that a study on the storytelling-like interaction with a consideration of distinctiveness in multi-display environment will extremely influence on the implementation of advanced display environment in future media art.

The previous studies in terms of IT technology perspective such as hardware-like or N-screen have been progressed relative variously, however it is a situation that no study has been performed on the interface between multi-display environment and media art

or related contents technology and methods. In existing environment, it seemed that this study started from the critical mind with respect to which was the most effective method for multi-display by applying to the media art and whether the value of works could also be improved. In order for this, this study intends to suggest the method of applying the storytelling-like interaction to actual production of the work in kinetic typography media art through an exploratory study. It is thought that a study on storytelling-like interaction would be more effective because of high frequency of audience's involvement in the work or movement occurrence in case of the multi-display, while the conventional interactive storytelling was suitable to single display simply about the choices by interactive developing method.

## 2 Storytelling-like Interaction

Interactive storytelling is a sort of narrations using the interactivity of computer and means that the story structure is simply changed depending on the choice of an user, and the difference of storytelling-like interaction is that an audience is consistently using the interactivity in order to create the story.



**Fig. 1** Comparison the flow of interaction single-display and multi-display

As shown in Figure 1, while it is not enough for the interactive storytelling on single-display to include the meaning of storytelling because the condition for the choice is continuously provided, it is able to say that multi-display storytelling-like interaction is more suitable method than the interactive storytelling in creative results or production works because of the physical space movement, time flow caused by movement, continuous exposure in storytelling phases.

### 3 Method for Work Production in Kinetic Typography Using Storytelling-like Interaction

A media art work through this study is a method that audience implements kinetic typography contents on the storytelling-like interaction. In this study, the reason for selecting kinetic typography as a content is above all it is a suitable content to storytelling-like interaction because of both communicational function based on text and ease of conversion to emotional image.

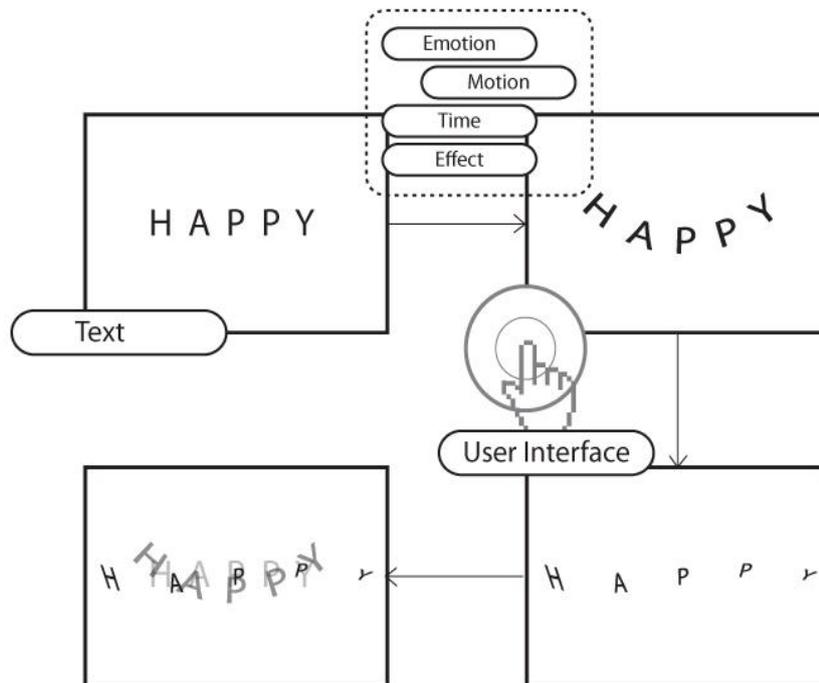


Fig. 2 user-scenario of kinetic typography work production using storytelling-like interaction in media art of multi-display environment

A work production basically reaches the final completion phase through the process of audience involvement on multi-display based on the contents manipulation interaction design and interface development technology and based on that, an user-scenario of the media art is as follows. The first text that audience input is being storytelling variously through the motion and emotion library constructed already in order for the audience to understand and to take part in the work. Library is widely composed of emotion, motion, time, effect and in case of choosing the word showing emotion, it is marked with words for emotional expression such as happiness, sadness, fear, surprise, etc. that are basic 6 emotions of the human being as Paul Ekman claimed.

In case of the motion, it was intended to induce the interesting of audiences and maximize the sense of immersion by offering more dynamic motions (wave, bounce...) together with basic simple motion (move, scale...). In case of the time, the unique

number for each display appears on the bar and it was intended to represent intuitively that length of the bar indicates the time that kinetic typography stays. Finally in case of the effect, the animation effects (dissolve, wipe...) generally showed in editing are provided.

#### **4 Conclusion and Future Study**

The reasons that the media art is differentiated from other artistic genres are to derive a participation of audience, to complete the work through this and to enhance the artistic value. While a single-display based conventional media art provided simple interaction and limited frame to audiences, since the media art in multi-display environment provides the expanded frame together with more active role of storyteller, it is thought that the media art in multi-display environment gives the significance in more positive motive for participating into the work and it is intended to verify the fact by the exhibition and interviews with audiences. In addition, it is thought that such a study is able to represent the emotional part of audience by several works if interfacing with bio-rhythm data of audience in the future and this would be a motive to show the advanced development in a sense that the media art is eventually completed by a participation of audience.

#### **References**

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