

# Cooperative Aesthetic Experience in Participatory and Interactive Art

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## Abstract

Visual and digital art mostly represent a field of culture where one viewer looks at one work of art. Personal appreciation of visual objects is a standard condition for experiencing fine art. But in music or dance, for example, this "standard condition" is collective reception. Creation can also be collective. These art forms require co-authorship, taking into account the actions of other participants and the constant adaptation of artistic behavior – important in music, dance and film production. An interactive artwork may be created by a single artist or team and may be intended for one or more viewers/participants. This last situation, which is the object of this analysis, is related to the cooperation between the so-called "pre-artwork" and the viewer. The existence of a work is essentially an event, it exists as a performance and becomes real through "playing it". The purpose of this article is to analyze works that are purposefully designed for multiple (rather than one) users and in which the artistic concept emerges as a result of the collaboration of two or more participants.

## Keywords

Collaborative interaction, interactive art, digital art, cooperative aesthetics, collective participation, social interaction, dialogical artwork.

## Introduction

Interactive art is an established historical category which has been analysed from theoretical and historical points of view by authors like Söke Dinkla, [1] C. E. Beryl Graham, [2] Katja Kwastek, [3] Oliver Grau, [4] Christiane Paul, [5] Peter Weibel, [6] Edward A. Shanken, [7] Ryszard W. Kluszczynski [8] and many others. The format of interactive art, permitting viewers to merge and act symbiotically with artworks, was a revolutionary art form in relation to older formats where viewers remained detached from the artworks. In the traditional exhibition situation there is a physical distance between the viewer and the artwork: the artwork and the viewer inhabit different 'worlds'. In the case of an interactive work, the viewer and the artwork belong to one 'world', there is no gap between them. The sharing of a common world is particularly clearly expressed in the case of biosensory works of art.

More often than not the experiencing of interactive art involves the collaboration between one viewer and one artwork, although it is a possibility that several viewers can take part even when this situation was not deliberately designed by the author. The goal in this article is to analyse

works which are purposefully designed for multiple users and in which **the artistic concept appears as a result of the collaborative activity of two or more participants**.

Visual art in general means pairing the viewer and the artwork, one to one, and in that sense the personal appreciation of visual objects is a standard condition of visual art. But in some other fields, like music or dance, this "standard condition" is intended to be a collective reception and, possibly, creation. These art forms require co-authorship, taking into consideration the other participants' actions and the constant adaptation of artistic behaviour—in music, dance, and film production this is the essential quality. Naturally we should differentiate between collaboration occurring at the phase of creation and the phase of reception. We can say that a collaboratively created artwork (dance, music, film etc.) has the potential to be viewed both individually and by many people simultaneously; alternatively, an individually created work can be seen by many viewers at once. This situation is different, however, when the work's exposition necessitates realtime collaboration as is the case with interactive works. An interactive artwork may be created by a single artist or by a team, and could be intended to function for one or many viewers/participants. This latter situation, which is the subject of this analysis, could be said to be bound to a collaboration between the 'pre-artwork' (a term describing an interactive artwork's physical entity before the interaction and appreciation events take place) and the viewer. The work's existence is essentially an event, it exists as a performance and becomes real through the process of 'playing it', analogous to the manner in which a theatrical play exists through its performance whereas its script exists on paper.

## Analysis of interactive collaborative artworks

The focus of this analysis is interactive art practice in which the act of creation is sometimes combined with the act of reception and where the collective element of the creation/reception is conceptually decisive. In traditional art practice collaboration occurs only rarely. In painting for example, multiple artists/assistants may apply different processes (plaster production, mixing colours etc.) in fresco painting. Expanding this concept we may claim that a collective reception and experience exists even in traditional art in the situation where large groups of visitors stand in front of famous paintings such as the 'Mona Lisa'. Even in these situations where audiences seek the aura of

the original they could still have the additional experience of being together which would not occur when alone in front of a painting. In this paper the discussion is restricted to participative activity/interaction with the artwork that shapes the artwork itself, using the following criteria:

- The work is digital art.
- The experience resulting from the artwork depends on the activity of two or more participants who are aware of the activity of others in the same room (or separate locations).
- Collaboratively experiencing the artwork is conceptually decisive: if a viewer participates and interacts alone then the concept of the artwork is neither apparent nor possible.
- Collaboration creates the shared aesthetic experience and it is experienced, hypothetically, by all participants.

### **The motivation for researching collaborative art**

Participatory and interactive art has been a topic of discussion for at least the last thirty years. Participation, in art historical terms, precedes the phenomenon of interactivity, and is pre-technological: interaction is participation plus technology. Our motivation to explore this aspect of interactive art arises from the experience of observing particular works in which the contribution of several participants is necessary and decisive. The authors of this article have encountered such works and have also created them, the latter situation enabling us to attract multiple viewers into an artwork simultaneously, producing a group dynamic that can elevate these works above everyday experience into emotionally meaningful events.

A crucial role in these artworks lies with their technical affordances, and it is this technical context that defines the number of possible participants. Novel technological devices create the hardware environment on which software-based creative solutions bring about new experimental situations. A good example of this can be found in the cooperative interaction projects made by Gerhard Funk at the Ars Electronica Center. Participants must move around whilst coordinating their behaviour relative to each other, following visual patterns that are created in real time. In this sense the participants' attentions are divided between their personal sphere of action and the collective participatory output: they observe the others as well as observing their own body and the screens below and in front of them.

It is necessary to point out that both terminologically and in practice a distinction needs to be made between **cooperative** and **collective** participation. The former means that participants produce and experience something together that did not exist until they came together and noticed each other's behaviour and actions, whereas in collective participation this creative synergy and common 'object' of creation is not an inherent characteristic.

### **The history of cooperative interactive art**

To deepen our analysis and provide context, historical examples of participative and interactive art need to be

taken into account. Cooperative interaction was explored in the audience provocations of the 1960s, in kinetic art and works designed for participation. The Paris-based group GRAV (Groupe de Recherche d'Art Visuel) offered audiences different attractions for collective and collaborative participation in their project 'A Day in the Street' (1966). The audience was invited to take part at different times of the day, allowing a break from routine and the enjoyment of the moment. In a similar way the "labyrinths" created by GRAV also challenged the audience to participate.

Mention should also be made of the happenings originating in the late 1950s which were open to the audience and had a clear cooperative nature, as well as the plastic structures made by Jeffrey Shaw (in collaboration with Theo Botschuijver and Sean Wellesley-Miller) in the late 1960s. Shaw's 'Waterwalk' (1969) allowed the audience to walk in tetrahedra over water [9] and the 'Waterwalk Tube' (1970) was a site-specific 250 metre long plastic tube created in Hannover through which the audience could cross the water [10]. Shaw's portfolio demonstrates a trend to engage audiences and these earlier works were a precursor to his subsequent electronic and digital projects—this artistic progression from analogue to digital forms of creation is a good example of how historical trends can evolve.

The early history of cooperative practices demonstrates how a much wider trend of action-based and participatory art practices, emerging from abstract expressionism, evolved into participatory and interactive art forms. This trend diversified into different forms such as actionism, performance, participatory video installations, and telecommunicative cooperative events such as the 'Hole in Space' (1980) teleperformances of Kit Galloway and Sherrie Rabinowitz [11] and the early telematic art projects of Roy Ascott such as 'La Plissure du Text' (1983) [12] in which 14 groups of participants scattered around the globe collaboratively wrote a story together over a period of three weeks. This progression and diversity over the last decades can be traced all the way up to the interactive digital installations that are firmly established today.

Cinemas and theatres are intrinsically designed for large audiences and thus suit collaborative projects. Space precludes a more detailed analysis other than the example of Radúz Činčera's 'Kinoautomat' at Montreal's Expo'67 which attracted 67,000 total visitors over six months. The audience voted by majority on the branching of the film's narrative six times. At Expo'90 in Osaka Činčera used laser discs in ten connected screening rooms of 'Cinelabyrinth' to facilitate narrative choice by means of walking.

### **Cooperation and interaction in new media art**

Contemporary media artist Rafael Lozano-Hemmer's projects 'Pulse Room' and 'Pulse Index' are built around the collective input of viewers. One after another participants are invited to record their biological information which cumulatively becomes part of the project. Perry Hober-

man's 'Faraday's Garden' and 'Bar Code Hotel', in addition to Sommerer/Mignonneau's 'A-Volve' and 'Interactive Plant Growing' are also worthy of mention: these projects are open to many users simultaneously and the audiovisual functionality is defined by the number of active participants. It requires close analysis to understand if and how this quantitative factor changes the quality of the presented artwork.



Fig 1. Rafael Lozano-Hemmer 'Vicious Circular Breathing' 2013

In our examination the main criteria are the simultaneity of collective use, collaborative access to the work and the conceptual importance of these factors. 'Vicious Circular Breathing' (2013) by Lozano-Hemmer is essentially and conceptually collaborative: air in the gallery which has been breathed by previous participants is used by subsequent participants for another breathing cycle. Another conceptually collaborative project is 'Pulse' (2006) by Lisa Jevbratt, Anne-Marie Hansen and Dan Overholt, which is built around biofeedback. An essential aspect of this work is the synchronisation of the pulses of participants, hence its meaning would be lost with just a single participant. Other related artworks include Ulrike Gabriel's 'terrain\_02' (1997- ) and Karen Lancel and Hermen Maat's project 'E.E.G. Kiss' (2014) in which the presence of two participants is essentially and conceptually decisive: without them the 'kissing platform' would be pointless.

Sommerer/Mignonneau's artwork 'Mobile Feelings' (2002-3) is clearly dialogical: visitors communicate via pumpkin-shaped devices which are equipped with biosensors and actuators that capture the users' heartbeat, blood volume pressure and pulse, skin conductivity, sweat and smell. [13] The goal of the project is to emphasise touch in communication. Since the device transmits heart rhythm, participants can feel "like they are holding each other's hearts". [14]

Sonia Cillari describes her installation 'Se mi sei vicino' ('If you are close to me', 2006) as a bioelectromagnetic responsive environment. [15] This work stands out from ordinary interactive works and is notable for its collaborativity and performativity. In the centre of the installation is an actor, the performer, standing in a slightly electrified

magnetic field. The performer is an interface who, if touched by a viewer, causes the system to start an animation programme which generates abstract forms on the wall. Golan Levin's 'Dialtones' (A Telesymphony, 2001) also illustrates collective participation clearly. First presented at the Ars Electronica festival, it was a concert-performance where audience members' cellphones were programmed at special web terminals which register the individual phone numbers.

Rafael Lozano-Hemmer's 'People on People' (2010) was a collaborative artwork in which the audience played with shadows, creating unexpected participatory situations: huge shadows were playing with tiny ones for example, like giants with dwarfs. This effect, nevertheless, was additional to the original idea which was to reveal the shadows of previously recorded participants.[16] In Lozano-Hemmer's 'Zoom Pavilion' (2015) the audience is unwillingly involved in collaborative activity: automatic face recognition programmes detect the faces of audience members and project them on the walls of the installation, additionally drawing graphical lines between the participants. This project fits more into a category of "post-participative interactivity" where viewers either do not acknowledge or understand how they are influencing the environment, or their understanding of being a participant of the installation occurs only after a delay.

Many telecommunicative projects possess collaborative qualities, for example most of the works by Paul Sermon are based on the collaboration of participants and he is best known for projects connecting different locations. His works 'Telematic Dreaming' (1992), 'Telematic Vision' (1993), 'The Tables Turned' (1997), 'A Body of Water' (1999) and many others were built on the activity of participants in different physical locations whose images are merged on a screen.

A perfect example that illustrates 'cooperative interaction' is the project 'Cooperative Aesthetics' ('Kooperative Ästhetik'), which was developed by the Ars Electronica Center and the University of Arts in Linz and curated by professor Gerhard Funk and assistant prof. Holunder Heiss. The technical solution was realised for the 8K Ars Electronica Deep Space screen with sensors in the corners of the room detecting the participants' spatial positions. The various components of the project are the hardware environment, the participants who move in the space, and the visual software modules (scripted by Otto Naderer).

In most performative modules, the expectation of the participants is collaboration, not competition, however in some modules this becomes something rather more than just 'being together'. The parameters and symbols that are used include entering the stage, jumping and spreading the legs, stepping on designated areas, participant position, closeness, duration, traces of movement and others. [17] Occasionally the movement of the participants is reminiscent of a dodgeball game, but without a ball and with participants constantly looking at their feet—they follow the visuals to which they are attached and move accordingly.



Figure 2. Prof. Gerhard Funk's 'cooperative aesthetics' project at Ars Electronica Deep Space in 2016.

## Conclusion

The goal of this paper was to investigate a variety of cooperative interaction projects which until now have not received much discussion in the field of interactive art. Further research might usefully be carried out to compare and contrast telecommunicative/internet collaborative artworks (participants separated in different locations) with those created for co-present visitors in an exhibition space or theatre. In regard of the characteristics identified in the projects discussed above, they can be listed as: non-traditional group dynamics (participants act simultaneously with other people or with images/objects); dialogical character of interaction; game-like situation (participants seek a response to their gesture/behaviour and themselves respond to other participants' gestures or behaviours); process-based; openness; and playfulness. These installations are mostly open environments in which the result is a process and the development of the activity is gradual.

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## Author Biographies

**Raivo Kelomees**, PhD (art history), is an artist, art historian and new media researcher. He studied psychology, art history and design in Tartu University and the Academy of Arts in Tallinn. He is senior researcher at the Fine Arts Faculty at the Estonian Academy of Arts and professor at the Pallas University of Applied Sciences. Kelomees is author of *Surrealism* (Kunst Publishers, 1993) and article collections *Screen as a Membrane* (Tartu Art College proceedings, 2007) and *Social Games in Art Space* (EAA, 2013). His doctoral thesis is *Postmateriality in Art. Indeterministic Art Practices and Non-Material Art* (Dissertationes Academiae Artium Estoniae 3, 2009). Together with Chris Hales he edited the collection of articles *Constructing Narrative in Interactive Documentaries* (Cambridge Scholars Publishing, 2014). In collaboration with Varvara Guljajeva and Oliver Laas he edited the collection of articles *The Meaning of Creativity in the Age of AI* (EKA Press, 2022).

**Chris Hales** has exhibited interactive film installations dating as far back as ARTEC'95 in Japan and Future Cinema at ZKM in 2003. His PhD (2006) was entitled *Rethinking the Interactive Movie*. Group interaction was investigated with the *Cause & Effect* interactive filmshow (2003–2012) designed for audiences in cinemas. Research was carried out in Prague to discover the forgotten secrets of *Kinoautomat*, the world's first interactive film (1967). Chris has taught hundreds of workshops related to experimental filmmaking and interactivity as a freelance lecturer. Since 2020 he is Assistant Professor at RISEBA University in Riga.