Connected Digital Artworks

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This paper describes an art installation that illustrates the concept of the Connected Digital Artwork. The installation is being run simultaneously at the HCI Interactions Gallery and EVA London. The concept of a ‘Cybernetic Ecology’ is introduced and its relationship to the Internet of Things is discussed.

1. INTRODUCTION

This installation presents a selection of LED and screen-based connected digital artworks produced by the author as part of his forthcoming solo exhibition “A Cybernetic Ecology”.

The artworks individually and collectively explore the concepts of “flow” and “connectedness” and present a contemporary realisation of the notion of a systems aesthetic (Burnham, 1968).

The installation in the HCI Interactions Gallery in Bournemouth is being run simultaneously with a similar installation at EVA’16 in London, with the artworks connected via the Internet.

2. THE OPERATION OF THE ARTWORKS

Each artwork is able to accept inputs from, and push outputs to, the other artworks in the network. In the pieces exhibited here, inputs and outputs take the form of numerical values that are exchanged via an Internet web service. As such the network is closed to human interaction. However, open configurations are possible where human participants form part of the network. In artworks such as “A Colloquy of Glass Jars” (Clark, 2015), communication between the artworks is through sound and light, enabling humans to participate. In the collaborative piece “Cities Tango 2” the inputs and outputs also included images, the exchange of which was triggered by the movement of viewers near the artworks (Edmonds and Clark, 2015).

When an artwork accepts a new input value it reorganises itself in order to maintain a rule-driven pattern of organisation. Having achieved a fully organised state, any values that are no longer required by the artwork are output via the web service and become available for use as the inputs to other artworks.

The process of the artwork reorganising itself is presented to the viewer as a dynamic grid of colours based on the values that make up the structure of the artwork. The rules used to reorder the grid, referred to as its organising principle, involve algorithms that order the colours according to their hue, saturation and lightness levels.

3. A CYBERNETIC ECOLOGY

The constant exchange and reuse of materials within the network of artworks is intended to be analogous to an “eco-system” where inputs taken from the environment are processed by an organism in order to maintain its internal structure. Material that is no longer needed by the organism is then released back in to the environment and forms the inputs to other organisms.

A network of connected digital artworks is referred to by the author as ‘A Cybernetic Ecology’. The term captures two key influences behind the work, that is cybernetic theory and ecological thinking. It is also a line from the Richard Brautigan poem “All Watched Over by Machines of Loving Grace”. This poem imagines a future world of harmonious co-existence between living and technological systems (Brautigan, 1967).

4. CONNECTED DIGITAL ARTWORKS AND THE INTERNET OF THINGS

The exploration of the “connected digital artwork” - a digital artwork that is intrinsically connected to its viewers and other artworks - has lead the author to consider a number of other propositions.
Firstly, should connectedness be seen not simply as one aspect of digital art but instead its key affordance? The author would argue that this is indeed the case and that “digital art” is on an inevitable journey to becoming “connected art”.

Secondly, might viewing a network of connected digital artworks from a systems perspective be something that has value when considering the “Internet of Things”? As ever larger sense and control networks are developed, the author suggests that a “Systems Theory of the Internet of Things” might become increasingly valuable.

5. REFERENCES


