Artist As Researcher, Understanding The Tools

Theresa Gartland-Jones
Kingston University
theresa@atgj.org

Abstract

The paper begins with a response to the nature of contemporary artists relationships to how computers have permeated the fine art domain and how they affect the creative process. How should artists utilize this tool in order to fully understand and explore its potential? Using the example of a recent project I have undertaken called 'nGen', I shall discuss some aspects of how the computer tool has influenced the process and creative ambitions. The conclusion will briefly summarise my future research and what is a relatively new and potentially rich avenue for artists.

Creative research

Creativity in the visual arts is at a fascinating stage of development, because as an artist I have access to technology and innovative methods of modeling creative processes. I regard computers as both tools that enable the use of sophisticated software metaphors for visual language exploration, and as tools that offer the potential for artists to enter into a world of research in which they can influence the metaphors. Computational processes and technology have generated new forms of visual aesthetic and interaction, within both a modernist and deconstruction art practice as discussed by Stephen Wilson who asks the question:

Can the Arts Offer Alternatives in Setting Research Agendas, Interpreting Results, and Communicating Findings? [1]

The answer is yes, and Wilson highlights the independent nature of the artist as researcher, valuable commentator and originator of ideas. In order for the artist to reach this stage, they have to be open to science, technology and the arts in order to be transformational in their creative practice. It seems a natural progression for artists such as Paul Brown or Manfred Mohr to explore the multiple permeations possible with the systemization achievable through computer methodology. However, much computer art is not defined by the artist, it is mediated through the scientist or the artist has a playful, passive collaborative, relationship with technology. It is important that if artists are going to engage with new technology and the impact on their aesthetic, or formal codifying of their creative process, then it is necessary to take on the work that is required to make the relationship a symbiotic one.

nGen: Collaborative (music and fine art) Installation

My art practice and interest in the science of autonomous systems and evolving dynamic forms has become a visual theme in my work and the focus of my research. I have a personal creative, modernist history, of exploring the human form and this ontology now incorporates visual ideas for representing current research into modes of information processing in the human brain, how these are modeled, and how they are applied in a creative context. Although I do not fully understand these mechanisms, it is the isotropic nature of this connectivity that holds a fascination for me, both in terms of how to represent, visually, the potential of these ideas whilst also considering them in relation to human memory, communication and creativity. Trying to understand the key to creativity and information processing feeds into my work through both the philosophy and scientific research into processes utilized to model them.

The project nGen, explored visually how to represent a continuum of matter and time conveyed through time-based interactive processes. Traditional drawings were made and then manipulated and computer animated using morphing software, Photoshop and Flash. These were brought into Director and presented as a projector (see fig.1). The work had no set linear timeline, because it is the potential for interaction and non-linear narrative that initially engaged me in using the computer as a tool in my art practice. The interaction is designed as a multi-user environment, creating a two-way dependency on the relationship between the audience and the visual and musical narratives that are generated.

The real-time correspondence between the audience, visuals and music, was dependent on the nature of the audience interaction. The visuals and music were

mapped to sixteen virtual zones that were resolved by 8 sensors that detected the movement of the audience. Each zone contained a family of images and musical phrases, so that the virtual zones equated to a synchronized transition from disorder to harmony. Essentially, I was controlling the individual and group narrative, by being aware of how the elements came together and at what point. However, for the audience, the synchronicity and dynamic feel of a work evolving over time and their influence on it were important elements that I hoped they would experience.

Figure 1. This is a still from nGen showing the performers and projected animation. Audio and visuals can be viewed at: www.atgj.org.

The interactivity was programmed using Lingo in Macromedia Director, a time-based software. Director has the versatility of Xtras that allow for hardware device interfaces. We used the I-Cube system for translating the sensor output into midi data, which is then read into director via a midi Xtra. For audio, Director is limited in its facility to have multiple synchronized channels operating, so software had to be written in order to handle the music generation.

The project collaboration was with composer Andrew Gartland-Jones who employs processes he terms as 'Organic Music'. He uses computer technology to 'grow' musical phrases through the use of what computer scientists call Genetic Algorithms. The phrases are then played on real instruments and recorded. The music therefore explores the creative interplay between humans and machines, with the final realized composition seen as collaboration between Andrew, the computer program, the visual narrative and the way the audience react within the virtual space.

As part of the installation, we included live music performance. The role of the musicians was twofold. They improvised in response to the audience who stimulated music generated through their interaction with the sensors, and, they also read computer-generated phrases that were scored by Andrew. The performance element had an unforeseen, but welcome effect on the nature of the audience interactivity, because they became much more confident in their exploration of the work and perceiving the subtleties within.

Current and Future Work

For me, current and future work has moved on to researching intelligent systems that, in the words of Ernst Edmonds:

extend the method to unify interactive work and, with the help of meta-rules, interactive work that performs differently over time according to experience. As the artwork learns, it changes the way that it develops rather than simply the way that it employs stimulus-response rules. [2]

References

[1] S. Wilson, *Information Arts*, The MIT Press, Massachusetts, 2002, pp. 35.

[2] E.A. Edmonds, " Logics For Constructing Generative Art Systems", *Digital Creativity*, 14 (1), 2003, pp. 23-28.