

GESTATION

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Abstract

Interactivity has become a major consideration in the development of a contemporary art practice that engages with the proliferation of computer based technologies.

Keywords

Keywords are your choice.

INTRODUCTION

Computer based technologies have created a revolution in the fields of animation and image generation as well as sound art and music composition. The computer has opened up a whole new genre where primary composition material can be drawn from any source, and once digitised, becomes a fluid and viscous medium.

My interest lies in placing the exploration of the potential of these technologies within an organic and human framework. Gestation focuses on creating an immersive environment that responds to the movement and behaviour patterns detected within it. The body becomes the controller. The organic process of human exploration, cognition and response, becomes the central influence in defining the output of the interactive process.

"In the environment, the participant is confronted with a completely new kind of experience. He is stripped of his informed expectations and forced to deal with the moment in its own terms. He is actively involved, discovering that his limbs have been given new meaning and that he can express himself in new ways. He does not simply admire the work of the artist; he shares in its creation."

Myron W Krueger Responsive Environments 1977

GESTATION

Gestation is an interactive responsive environment. It contains two integrated spaces. One gallery contains a surround sound field, generated in real time using video sensing equipment (visible to visitors only as a small security video camera in the middle of the roof) that maps the behaviour and movement patterns of the visitors on to real-time audio algorithms providing a tight gestural relationship with their movement and behaviour patterns. No pre-recorded material is being used in the generation of the sounds, they are all generated algorithmically in realtime, creating evolving streams of sound.

In the second gallery, a large projected image represents the development of new human life in response to the activity in the first gallery. The image background

represents a sea of life forming cells. Additional layers are formed by the development of new fetuses. Each foetus starts to grow at the point at which particularly dynamic activity is sensed in the first gallery.

The aesthetic of the sound environment is a carefully tended intimately textured sound. It is intended to create a viscous, fluid environment for the "making of life". The qualities of this sound change in relation to the direction, speed of movement and number of people within the space. In addition to the underscore sound, more contained points of interest are tied to the creation of each new foetus, and are associated with the position within the gallery space at which that activity is sensed. The growth sounds express the qualities of life forming: the binding of cells, the development of human form, and the growth of the foetus.

Over the last five years I have collected ultra-sound videos from friends and acquaintances that have had children. The videos are all of their first-born children and form the basis of the moving images. The cells begin growth at a point in the two-dimensional grid associated with the sensed movement in Gallery Two, and grow at a rate associated with the dynamic of that activity. Varying rates of growth are associated with thresholds of activity.

Participants in the sound gallery cannot see the visual element without leaving the gallery space. They can make life, but not observe it at the same time.

The two galleries are detached to illustrate the hidden outcomes of our activities. This approach also allows the visitors to be more deeply engaged in the details of the sound environment, in the hope that they will more consciously engage with the fluidity and variability of the sounds.

TECHNICAL SPECIFICATION

Kat Mew has developed the imagery from source videos of Ultra-Sound examinations of pregnant woman, which I have collected over the last few years. These moving foetus images are digitised and then converted to animations, which are placed within a varying background that suggests the Ultra-Sound aesthetic. The imagery was constructed using Macromedia Director. The position, and growth patterns of the fetuses is controlled using MIDI communication from the sound and video sensing computer.

The video sensing of activity within the sounding gallery is achieved using the Very Nervous System (VNS) and a single CCT video camera in the roof of the gallery. The VNS is a self-contained digital signal processor that is controlled from a Macintosh computer over a SCSI connection. Software to analyse the VNS data was written by Garth Paine in Cycling74's MAX environment. The output of this software (an integer array: one number per defined region, of which there are 256) is sent as MIDI information to a Symbolic Sound, Copybara/Kyma sound synthesis system, which is a high-end audio DSP/synthesis device. The sound from the Copybara is then dispersed into the gallery in four channels.

Garth Paine has used the VNS sensing system since 1996. He has developed a number of innovative approaches to the use of this video sensing equipment. Previous examples of his use of this system, combined with realtime sound synthesis can be seen in his installation pieces MAP1 and MAP2.

ACKNOWLEDGMENTS

- Garth Paine - Concept, Direction, Sound Design, sound and interactive systems programming
- Kat Mew - Video Digitisation, Animation
- Clint Hannaford - Ling programming

Special thanks to all those who gave me their first images of your first-born. I greatly appreciate it. You know who you are :)

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