AHRC ICT Methods Network Symposium

VISIONS AND IMAGINATION: ADVANCED ICT IN ART AND SCIENCE

DEPARTMENT OF COMPUTER SCIENCE, UNIVERSITY COLLEGE LONDON, 24 NOVEMBER 2007

ABSTRACTS

ALEXA WRIGHT
The Art and the Science of A Speech-based Interactive Installation

Abstract

Artist Alexa Wright and Mike Lincoln from the Centre for Speech Technology Research, University of Edinburgh will present Conversation Piece, an intelligent room that can converse with its occupants. Conceived as an artwork that explores the interface between technological and 'real world' experience, Conversation Piece incorporates a number of newly developed speech technologies.

This interactive space, which can hold conversations with up to three people at any one time, is the result of a long period of research and development, during which the boundaries between art, science and technology research have often become blurred.

ANN BORDA
Community and Innovation : JISC Funded Activity in the Arts & Humanities

Abstract

The JISC (Joint Information Systems Committee) is currently supporting several initiatives around the creative and research uses of advanced ICT and e-Science tools & methods in the Arts & Humanities. This presentation will provide an overview of a variety of work being undertaken within the UK, including a selection of demonstrative examples from the JISC e-Research programme and related programme areas.

ANTHONY STEED
Mixed-Reality Systems: Revealing the Real and Virtual Worlds

Abstract

ICT systems are moving outdoors and becoming ubiquitous: the devices we carry with us provide us access to applications and communications (almost) anywhere and at (almost) anytime. At the same time, huge effort is being made to map the real world: through services such as Google Earth and Microsoft Virtual Earth we explore detailed 3D models of the world around us. However with the combination of these systems we can start to interleave the virtual with the physical and reveal the nature of the physical in ways that haven't previously been possibly.

In this talk, I will give an overview of a few recent technology-led projects that have interleaved the physical and digital in new ways. These include making 3D pollution maps from mobile tracked sensors carried by

commuters; realising location-based services which exploit the physical structure of the urban environment; augmented reality system that map virtual information into real places and telecollaboration between virtual worlds and real spaces.

GORDANA NOVAKOVIC

Neuroplastic art

Abstract

The dramatic shift in neuroscience produced by new discoveries about neuroplasticity – the brain's enormous capacity for change and growth through its interaction with the environment, and through a variety of learning processes – is set to revolutionise our understanding of the roles and effects of culture and art. It has created a fascinating opportunity to fuse scientific knowledge about the brain with artistic imagination to create platforms for experiences that have never before existed, potentially giving rise to an entirely new art form: *neuroplastic art*.

We can envisage art works that will transcend today's mere fascination with state-of-the-art technology, and will fuse both technology and brain science into a single means of expressing ideas and even, perhaps, uncovering new and benign ways of linking our brains with, and through, technology...

HELEN SLOAN

Method or hypothesis: the changing role and importance of ICT in arts and science projects

Abstract

This paper will focus on a comparison of different presences of ICT in art and science projects. Through case studies drawn from SCAN's portfolio, Helen Sloan will look at roles that ICT can play in the development or dissemination of such works. As these roles are defined, questions arise around whether ICT is a facilitator of a concept or it is the thesis of a project. It will investigate how ICT, which is technology based, functions alongside an interrogation of the grand narratives of art and science.

JANIS JEFFERIES

In Collaboration

Abstract

C.P. Snow's commentary on the 'two cultures' of modern society (as popularized in the Rede lectures in Cambridge in 1959) is frequently cited as a challenge to establishing a meeting place for artists and scientists where stereotypical expectations might be broken down. 50 years later there are some significant art and science collaborations, which critically involve self-reflection in a new meeting space of intrinsic curiosity and artistic interpretation. Artist helps scientists improve communications between the public and research worlds. They discover ethnical and social issues, which can be explored afresh in research projects.

Normally, art does not evaluate empirical knowledge but it does rely on 'situated knowledge' as embedded in language, culture and traditions as well as methods of experience and interpretation. Art and Science collaborations can lead to the creation of new practices and innovative approaches in the social context of each other's worlds. An experimental approach, the search for first hand information and experience, the development of models to explain what is observed can be dependent on place, economics and culture.

This presentation will focus on projects which explore this meeting place from the artists' perspective. It will look at some case studies that have been produced by Goldsmiths Digital Studios over the last 2 years.

JULIE FREEMAN

Combining the odd: carp behaviour, nanotextures, empathy detection

Abstract

From fish tagging to dog's ear flap analysis to fMRI scanning, Julie's work makes use of scientific hard- and software technologies to explore biological aspects of the world. The extent of the artist/scientist relationships formed during the creation of these projects depends on opportunity, need and funding. Julie will discuss the process behind the involvement of scientists and scientific organisations in her past projects and reflect on the positive and negative effects on each party and the final outcome. She will also discuss plans and expectations for a deeper integration of technological processes into her future work, and a hope for a greater bidirectional knowledge sharing with her potential collaborators, during her forthcoming residency at the Microsystems and Nanotechnology Centre at Cranfield University.

LILIANE LIJN

Starshine -Stardust: Are we so different?

Abstract

Subsequent to my three-month residency at the Space Sciences Laboratory at University of California Berkeley in the summer of 2005, I have been working on two collaborative projects.

Solar Hills is an ambitious project on which I am collaborating with astrophysicist Dr. John Vallerga to create large-scale solar installations in the landscape that will define the horizon with light.

Stardust, the poetic title of the NASA project to gather and examine interstellar cosmic dust, is also the title of an exhibition I will be having at the new Riflemaker space opening 1st of April. In it I will exhibit recent work with Aerogel, in which I hope to mirror certain aspects of the gathering of cosmic dust for research by astrophysicist Dr. Andrew Westphal.

In this talk I plan to briefly describe these two projects and the complexity of the collaborative process itself.

PAUL BROWN

The Pursuit of Autonomy: Art that Makes Itself

Abstract

The pursuit of autonomy has a long history in the visual arts and it was accelerated in the 20th century with the application of first analog then digital electronics. In 1956 Nicolas Schöffer created CYSP1 (Cybernetic – Spatiodynamic one) and in 1968 Ed Ihnatowicz made SAM (Sound Activated Mobile). Both were included in the exhibition Cybernetic Serendipity in 1968 along with other pioneering works like Gordon Pask's Colloquy of Mobiles. That same year Jack Burnham's "Beyond Modern Sculpture" was published where the author suggests that the future of sculpture would be the creation of "life simulation systems".

This presentation will discuss this history in the context of constructivism and then systems and conceptual art and will conclude with a discussion of the authors own work and, in particular, his recent interdisciplinary DrawBots Project.

PETER BENTLEY

Viewing Systemic Computation

Abstract

In an attempt to provide a common language that describes form and function in biology and computer sciences (as well as all other sciences), Peter Bentley created a model known as "systemic computation". The model relies on notions such as embodiment, circular causality, and homeostasis to explain how information flows and is transformed by interacting systems, whether biological or artificial. To date, a systemic architecture, language and compiler has been produced, enabling us to model evolving systems, neural systems (or indeed anything else). The next step in this research is to develop ways to visualise the hugely complex interactions and flow of information. It's a hard task, for many of these complex systems have relationships that cannot be shown using two or three dimensions. If successful, the visualisations would allow us to see what the flow of information in evolution looks like, and to compare this "complex systems sculpture" with those corresponding to neural networks or immune systems.

Peter is both a popular science author and a scientist. In his books he writes for a general audience, so in addition to the research he performs, he is always trying to find better ways to communicate scientific ideas. In the second part of the talk, he explores how this can be achieved.

STELARC

EXTRA EAR: EAR ON ARM (Internet Enabled Body)

Abstract

An extra ear is presently being constructed on my arm. A left ear on a left arm. An ear that does not hear but transmits. A soft prosthesis engineered with skin, and scaffold and augmented electronically. A facial feature has been replicated, relocated and rewired for alternate capabilities. Excess skin was created with an implanted skin expander in the forearm. By injecting saline solution into a subcutaneous port, the kidney shaped silicon implant stretched the skin, forming a pocket of excess skin that was used in surgically constructing the ear. At present it is only a relief of an ear. The third surgical procedure will lift the helix of the ear, construct a soft ear lobe and inject adult stem cells for even better definition. Another procedure will implant a miniature microphone that connected with a blue-tooth transmitter will enable a wireless connection to the internet, making the ear a remote listening device. This will allow people to hear what my ear is listening to where ever each person is. When electronically complete it will form part of a distributed bluetooth headset. The body becomes internet enabled. The extra ear becomes an internet organ.