Cybersonica '03
Proceedings of the CREAM Symposium

Edited by
Richard Barbrook
John Eacott
David Jennings

London: Cybersalon

Cybersonica 2003

Cybersonica 2003 is a three-day festival that explores and celebrates sonic innovation. It features live performance, alternative club nights, exhibitions, screenings, talks and workshops at the Insitute of Contemporary Arts (ICA) and other venues across London.

The festival brings together a whole community of musicians, DJs, VJs, academics and artists; providing a platform for new home-grown talent and encouraging collaboration between labels, projects and agencies around the world.

Webcast via Cybersonica Web TV, the schedule includes live coverage of the performances, talks and presentations plus documentaries, exclusive interviews with artists and live DJ/VJ sets.

For more details visit the Cybersonica website http://www.cybersonica.org.

Cybersonica 2003: Proceedings of the CREAM Symposium

Acknowledgements

Contents of Full Proceedings
(selected abstracts only in this version)

Editor's Note

The papers presented at Cybersonica '03 show a set of theorists and practitioners concerned with rebuilding the experience of music from the ground up. They eschew the solipsistic tendencies of some electronic music and digital art. Sound in these papers is very much in and of the world, moving to and fro between physics, sensory psychology and the visceral experience of our bodies.

The music makers in this collection are concerned not so much with the human-computer interface *per se* as with reaching through the interface: digital processing opens new opportunities for the sublimation of data into sound. Thus Andrea Polli's paper describes how the mapping of atmospheric data onto sound recreates the experience of a storm, while Ramia Mazé and Lalya Gaye allow a new generation of *flâneurs* to compose via their voluntary and involuntary interactions with city environments. Martin Robinson reminds us that all instruments map some kind of movement onto sound, but shows how neural network models increase the degrees of freedom for this mapping.

We are invited to embrace the kinaesthetic and synaesthetic potentialities of creating sounds, whether it is through Michel Waisvisz's use of new instruments like *The Hands* or Jim Wood's *Emotional Paintings*.

The redefinition of musical performance that is embedded in many of the papers also reflects a determined openness to accident and environment that stretches back to traditions from earlier in the twentieth century. Papers such as Anthony Moore's and DJ Tendraw's situate recent developments within a strong historical awareness. Cultural theory is also represented in papers like Alan Peacock's, which argues that our critical vocabulary of 'narrative' and 'database' models is insufficient to deal with some of the playfully interactive music-making tools that go under the name of 'soundtoys'.

The proceedings kick off with papers from the keynote speakers at the symposium, and those by David Toop and Anthony Moore deal, in different ways, with the phenomenology of sound in space. Should Toop and Eastley's music be described as sound fields or sonic sculptures? Where is sound, how do sounds interact with each other, and should we locate our experience of these interactions in our minds, our ears or out there in the world?

Notwithstanding their interrogative, experimental approaches, the papers in these proceedings remain rooted in the traditional practices of *the playing of music, and music as play*. Though the papers are at times analytical and technical, they retain throughout a faith that there is magic in the world: there is music in the world.

David Jennings
9 June 2003

Sound Unbound

Paul D Miller (aka DJ Spooky)

Abstract

Sound Unbound will be a 'live' multi-media presentation of the history of digital art and media from the viewpoint of an artist who uses 'found objects' like a DJ – i.e. it's a subjective selection where old video material will be remixed and combined with new... History itself will be the material for the mix, and the lecture presentation will focus on how DJ culture has evolved out of the same technologies that are used for digital media and art.

Smartsound: a Framework for Multi-user Sound Interaction

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Abstract

While designing interactive sound experiences a need has emerged for a flexible user interaction and controlling system that can be used across a variety of applications. An example of this type of interaction is currently being developed by Ambigence for the Intelligent Street project in which users control and interact with a sound environment by sending simple, one word commands as text messages from their mobile phone. There may me many users sending commands within a short time frame and the system must be able to respond to each one in a way that allows the user to perceive the effect of their input. Although the idea of sending commands is simple, in order to interpret the command within a complex and fluid field of interactivity we need to develop a general method of mapping these simple commands within a rich parameter space. *Smartsound* has been conceived with this type of usage in mind.

Sonic City

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Abstract

Sonic City is a wearable system for creating electronic music, based on sensing bodily and environmental parameters. Context and user action are mapped to sound processing parameters and turn live concrete sounds into music. Thus, a personal soundscape is co-produced by a user's body, local activity and urban ambiance simply by walking through the city. Encounters, events, architecture, weather, (mis)behaviours – all become means of interacting with, appropriating, or 'playing the city'.

We have developed a working prototype that consists of a range of sensors, a microphone, headphones, and a small laptop running the music programming environment PD. In relation to sensor values, concrete urban sounds are processed in real time with a cross-coupled mapping strategy incorporating sound processing objects such as filters, delay loops, envelopes, sampling, playback, mute, and echoes. Currently, the system is embedded into a jacket designed for adaptable sensor placement and experimental tests with 'players' on-site in the city.

In this project, it is our intention to support musical creativity integrated into everyday life. We break out of traditional contexts for music creation to explore the creative potential within our local surroundings and mundane activities. Wearing Sonic City, anyone can experience a simple walk down the street as an expressive act, a path through the city as a personal composition. As a complement to lived urban experience, it is a new, intimate soundscape intended to enhance perception and encourage new uses of the urban landscape. Developed as an extensible prototyping platform, it is a vehicle for engaging a wide range of people in playing the city as a musical interface. Thus, Sonic City is our platform for exploring emerging urban behaviours and the cultural effect of this type of everyday music creation.

Atmospherics/Weather Works Storm Sonification Project

Andrea K. Polli

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Abstract

Atmospherics/Weather Works is a performance, installation, and distributed software project for the sonification of storms and other meteorological events generated directly from data produced by a highly detailed and physically accurate simulation of the weather.

Sound Hacking – Channelling Electricity into Sound

Presentations and Panel Session organised by Alex Mclean

Nullpointer

Tom Betts is an artist, programmer, composer and performer. He works with digital media on many different levels, deconstructing systems by modifying software as well as writing new software to create audiovisual tools and environments. He has produced a series of audiovisual works, including BitmapSequencer, AudioPool and PixelMap as well as writing experimental VST plug-ins.

Recordings and recent activities include electronic scores for contemporary dance; audio-to-visual interfaces and tools using generative programming techniques; a seven track EP of generative electronic music; and a publishing deal with EMI for his experimental pop band, Weevil.

John Burton

I am fascinated by listening to, recording, and manipulating sound. It's a simple obsession and has fuelled my investigations over the last five years. Recently I have become interested in methods of interfacing the computer that might allow the user a greater degree of spontaneity and fluidity of expression than with regular hardware/software interfaces. My latest interfaces utilize a combination of human physical inputs, natural forces, and chance.

Working with Max/MSP software, John has released several sound related applications including *CDminiFook* and *Chop*, which have both been featured in travelling exhibitions.

John has performed under his stage name Leafcutter John at electronic music festivals worldwide since his debut on Planet Mu Records in 2000. He has also remixed for and released music on Klangkrieg, Tigerbeat6, XL Recordings, Melange, Simbolrec and Schematic labels. John's third album *The Housebound Spirit* is due for release in July and was previewed on *the Wire* 20th Anniversary issue cover mount CD.

http://leafcutter.33-rpm.net
http://planet-mu.com

Alex Mclean

I use the Perl programming language as a direct and evocative musical interface. By expressing musical ideas in code, I can go from a simple idea to complex, evolving sound within minutes. Sometimes, the result turns out to be music, and occasionally we (slub) manage to make people dance to it.

Processed-based music is not a particularly new approach, and does not require a computer, as the experimental work of Cage, Nancarrow and the like demonstrates. However, computer music is too often frustrated by a focus on mesmerising and indirect graphical interfaces. As we are dealing with computer music, why not instead concentrate upon the process behind the interface, to search out structure and movement invoked by the code, as well as the user?

Alex is CTO of state51, building infrastructure for the independent music industry. He creates and performs music with Adrian Ward as 'slub', making live techno using composition and synthesis software written entirely by themselves. Alex has presented and exhibited his work widely including at the touring 'generator' exhibition and the Sonar and Transmediale festivals. He is involved with many online projects, including the runme.org software art repository.

http://slab.org
http://slub.org
http://state51.co.uk
http://runme.org
http://dorkbot.org/dorkbotlondon/
http://placard.slab.org/

Stochastic Interfaces: Towards a Theory of Cultural Prediction in Time-Based Interactivity

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Abstract

The investigation begins with the problematic nature of time-based interfaces in digital and electronic media. Relevance to music is given by assuming that prediction is like music and sound: a process in time. Are cultural and time-based interactions, as patterns of movements while using software, or as performative events, predictable?

To what extent could the very nature of cybernetics as prediction of stationary time-series be expanded to a universal cultural prediction, assuming that the user input is a signal. Industry has already asked this question: Microsoft's slogan 'Where do you want to go today?' is a query towards the analysis of the user in real-time, the usage, trying to anticipate his and her needs. Art and media studies, in contrast, should investigate the nature of time-predictable interfaces in order to open the closure of feedback of communication since World War Two, towards a decontrolled and uncertain trajectory of interaction.

A Material Approach to Sonic Thinking
in Science and Media

Sven Mann and Thom Kubli

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Abstract

Any media technique reveals intrinsic aesthetics. Considering the structuring of thinking through perceptional phenomena, in this case auditory spatial phenomena, each step in the development of mediating technologies becomes a crucial element of influence.

A succession of popular technologies in the auditory field includes, for instance, the steps from mono to stereo to current 5.1 consumer systems. Furthermore, the use of wireless technologies such as radio delivers an acoustic signal to potentially every location within its transmission range or within the communicative forces of GSM mobile phones.

In combination with software and hardware, capable of processing and transporting audio in real time, the paradigm of visually characterized spatial perception becomes confronted with the notion of a field-like acoustic perception. The sensation of space in this non-linear and relative manner is constitutive for a sonic understanding, basically dealing with the immateriality of sound. Hence the phenomenon of materiality appears in this environment as an element of sculpture, a tactile material and oscillating matter permeating the field-like experiences via its intimacy and immediacy.

Beyond functionality, the effect of material is referred to as atmosphere, an immeasurable residuum of the object itself. The information introduced into material, as illustrated by the examples, ranges from quasi-organic resonators to micro-bacterial influence on the development of biosmatic-acoustic systems.

Material features anchors in physical space, offering attributes from which individual spatial constructions are spanned. Synchronising the experiences of a field-like perception with tactile or spatial intimacy, the materiality in a sonic environment becomes an initial factor of an acoustic milieu.

Giving Is Receiving

Richard Barbrook, PhD

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Abstract

During the late-1990s dotcom boom, experts claimed that the Net was a global electronic marketplace where every piece of information would be a commodity. Yet, one of the most striking features of the Net is the ubiquity of its hi-tech version of the gift economy. Information is for sharing not for selling. We contribute our time and effort to the hi-tech gift economy because it is our self-interest. However much of our own work we give away, we will always get more information back in return from all the other people who are on the network. The gift economy of the Net isn't just a method of pirating commercially-available media. It also enables us to publish our own media without needing prior approval. At the beginning of the 21st century, the Net is now inspiring novel forms of expression which reflect its own social mores and technical protocols.

toyCrit

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Abstract

This paper is titled 'toyCrit' and it is a consideration of how we respond critically to that class of interactive artefacts that are familiarly referred to as '*soundtoys*'. This term is acknowledged as having come into general use through Stanza's site, soundtoys.net, although things of the kind we refer to as *soundtoys* existed beforehand.

The paper looks towards an established canon of critical responses to interactive media, noting an underlying idea that the user constructs a narrative by traversing a database via an interface, which has become a commonsense understanding of digital artefacts. After putting forward ideas about varieties of soundtoy, the paper then questions whether the idea of 'traversing of a database' is a useful one when considering soundtoys or whether ideas about the materiality of interactive media may be more useful.

It's Appendixing Again (Extracts)

DJ Tendraw and the Gypsies Dog, BA

Abstract

Circuit-bending is an electronic art which implements creative audio short-circuiting. This renegade path of electrons represents a catalytic force capable of exploding new experimental musical forms forward at a velocity previously unknown. Anyone at all can do it; no prior knowledge of electronics is needed. The technique is, without a doubt, the easiest electronic audio design process in existence. [1, page 1]

DJ Tendraw and the Gypsies Dog predominantly experiment with electronic music and the equipment used for the making of this music. They specialise in making electronic musical instruments out of used or abandoned electronic devices, preferring these devices to be children's toys. The term most widely used to describe the process of changing and reconfiguring these devices is circuit-bending and is inspired by the work of Reed Ghazala (http://www.anti-theory.com/soundart/circuitbend/) and Dave Wright (http://www.carrionsound.com). Of the many reasons for choosing this method, the most important is that these circuit-bent devices offer possibilities not furnished by commercial electronic instruments. There appears to be three main reasons for the lack of these possibilities in commercial instrumentation:

1. The circuit bent devices are inherently unstable. Although most circuit-bent instruments have controls they are either inaccurate or untuneable. In the commercial sector this is seen as a weakness in the device.
2. The circuit-bent devices are loaded with messages pertaining to their creation. These messages are carried in the look of the devices – they appear to be homemade. This issue of authorship (of both music and instrument), expressed within the instrument itself, adds dimensions to the music and performance that are unattainable with standardised instrumentation.
3. The use of toys, and the sounds created with those toys, contextualises the music and performance across many cultural backgrounds (children, parents, play, comedy, fairytale, etc). Manufactured instruments are limited to the culture of music technology, and as such, other influences must be sought in the performance or music to add any other cultural reference.

If the use of circuit-bent electronic musical instrumentation by DJ Tendraw and the Gypsies Dog is seen as a design project, the design brief would be: to forge new paths into electronic music in order that a broader range of people might explore its territory.

Having taken this brief as a starting point, and having applied circuit bending in pursuit of the brief, the brief was then abandoned. The reason for this is that circuit-bending is capable of forging those paths outlined in the brief, but it is also capable of a whole lot more. The utopian outlook of the brief would have intentionally limited the project to a safe and sanitary position, but circuit-bending offers a palate of sounds and spectacle that leans itself perfectly to the very opposite position.

Experimentation continues with the process, but now it is with the aim of finding out what else can be offered through the process itself.

Neural Networks for Audio-visual Control Systems

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Abstract

Artificial neural networks offer a means of controlling audio-visual hardware and software systems in a non-linear, yet incredibly intuitive manner. The principles underlying artificial neural networks are introduced leading to the presentation of a flexible toolkit for audio-visual control.

Patchwork Sounds, Pictures and Spaces

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Abstract

Max/MSP/Jitter as tools of creation of sound and art machines, using components to create installations, environments, objects. My intention is to introduce the projects and experiments that I have made since graduating MA, and to show work of MA Interactive Digital Media (Masters) students at Ravensbourne College of Design and Communication. As part of the MA program we have developed a studio for experimentation <XR> 'experimental resource', which introduces hardware and software for real-time interactive audio-visual work. One of the key concepts is to promote the notion of space-based media, meaning that which exists in defined or public spaces, or with everyday objects and experiences. Focusing on what has brought me to this point, and describing a few examples of students work.

Simulating Squarepusher

Nick Collins

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Abstract

As part of explorations into algorithmic breakbeat science, I have analysed the drum programming work of Tom Jenkinson (aka Squarepusher) and modelled an automated breakbeat cutting routine based on idiomatic material. Though by no means an attempt to sum up as diverse a character as Squarepusher, the procedure provides an insight into some aspects of the Squarepusher style, as well as allowing interesting extrapolations that move the programmer into a more abstract and not strictly imitative territory. The routine is written as part of the author's BBCut Library for SuperCollider, and is not yet publicly released because of copyright qualms: this will be the first public demonstration.