ACMC2015 – *MAKE!*

SUBMISSIONS BY ABSTRACT

LUDIC HUMAN COMPUTER CO-CREATION

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ABSTRACT

Generative composition tools are now available on many mainstream computing platforms. They are more accessible and more usable than they ever have been before. Generative composition tools use autonomous processes as means of enabling a user's search for outcomes. The autonomous qualities of generative systems make them well suited to act as collaborative agents in a co-creative process. They do not necessarily exhibit the properties of human creative agents, but can stimulate and actively contribute to a creative process in a number of ways. Generative tools extend users' ability to innovate, promote discovery and can provide new ways of looking at familiar problems.

An initial study we conducted looked at utility and user experience. We compared how users develop strategies to complete both complex compositional tasks and open ended composition. The study looked at composition tools which adopt either a linear non-generative composition process or a non-linear generative one. The results suggested people become tightly engaged with generative processes. We propose to understand this in terms of a ludic interaction, focusing on play as a means of engagement which supports self motivated exploration.

In this presentation we expand on this notion of ludic interaction with creative systems, drawing both on the notion of 'play' in a musical creative sense, and the use of gameplay principles in productive software use, and in video game design. We look at the relationship between play and co-creativity in order to gain an understanding of how to evaluate success and how to design interactions in generative composition tools.

SOUND AS MULTIPLICITY IN EXPERIMENTAL MUSIC: LISTENING WITH THOREAU, CAGE AND SERRES

Dr Ben Byrne

ABSTRACT

A proverbial question asks, 'if a tree falls and no one is there to hear it, does it make a sound?' The question is interesting not for its possible answers – which clearly depend on the definitions of sound, hearing and subjectivity employed – but for the further questions it raises. How is it that a tree falling is considered to 'make' sound? And, more tellingly, why is it that the tree is thought to make 'a' sound distinct from that of the wood of which it is part?

Idealised archetypes of sound such as the voice, sine tone and high fidelity recording have had a marked influence on the study of sound, supporting an assumption that sound can be approached as a thing, treated as a discrete, reproducible commodity. However, experimental music has been greatly influenced by those who have gone into the woods and listened to sound as multiplicity – sound as dynamic, heterogeneous, contingent and discursive. 'Sound as Multiplicity in Experimental Music: Listening with Thoreau, Cage and Serres' traverses experimental music that approaches sound in this way, drawing on the experiences of Henry David Thoreau, the music of John Cage and the philosophy of Michel Serres as well as the capabilities of digital technologies. This is music that is itself multiple and must be heard rather than played. Music that complicates accepted notions of identity, mediation and environment, shifting emphasis from composers and performers to listeners.

ACOUSMATIC COMPOSITION IN A BLENDED WORLD

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ABSTRACT

As we move into the era of ubiquitous computing and smart cities, unprecedented opportunities exist for composers to move their work out of the studio, concert hall or art gallery and into public space. While Augmented Reality is already upon us through various smartphone apps and other technologies, the general population will come to expect their real-world environment to become more responsive to their interactions through embedded technologies. Composers have an opportunity to engage in this through shaping the acoustic environment and offering new experiences for audiences that bend the relationship between composer, performer, and audience in unprecedented ways.

This paper explores recent site-specific installation works by the author, the shifting notion of diegesis within these works and their relationship with the audience. Particular attention is given to opportunities for the composer to engage with a site, approaches to blending the work with the existing acoustic environment, and approaches to moving the audience through different perspectives and states of immersion. Various computing and audio technologies have been used in the creation of the works, and these are examined from perspectives of computing, robustness, sustainability - or how to create digital art in environments without available electricity - and audio spatialisation in non-traditional environments.

The works have been built for a variety of locations for both temporary and permanent installation, including a remote abandoned mine, a steam train, parks, streetscapes, and a sports stadium. Lessons learned from site-specific work, are also discussed as to their re-appropriation into recent gallery installations by the author, in the context of the audience's understanding of place, and sense of Dasein or "being there".

GESTURE STUDY AND CORRESPONDENCES:
COMPOSING FOR PERCUSSIVE IPAD APPS

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ABSTRACT

This paper describes the process of creating three compositions for multi-touch iPad apps and percussion: Gesture Study No. 1, Gesture Study No. 2, and Correspondences. These works were composed in 2014 as part of an effort to develop repertoire for two Canberra-based iPad groups, Ensemble Metatone, and the ANU New Music Ensemble. The works are for an ensemble of flexible size, and are open-ended with respect to the app that is used. Two of the compositions (Gesture Study No. 1 and 2) are for iPads alone, and one (Correspondences) is for a setup of iPads and small percussion instruments. We discuss how we have used standard musical notation to represent a vocabulary of percussive touch-gestures identified in previous research and how these works have adopted themes and techniques from percussion ensemble repertoire. Not only have these works led to several valuable performance experiences and an ongoing touch-screen ensemble practice, but they have also been used to explore the limits of our gesture-tracking agent software in real world situations.

3D PRINTING MICROTONAL FLUTES

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ABSTRACT

Microtonal tuning is a rapidly expanding area in which musicians are experimenting with a diverse range of tuning systems in their search for new resources for making music. One of the challenges in the field of microtonality is that conventional musical instruments are inadequate for realising the abundance of theoretical tunings that musicians wish to investigate. Already there is significant interest in instruments with microtonal capabilities such as keyboards (Narushima 2013) and re- fretted guitars (Schneider 2013) but very few microtonal wind instruments are available commercially. The aim of this project is to explore the potential for 3D printing to create custom-designed wind instruments that can play music in a variety of microtonal scales. Flutes serve as the initial stage in an investigation that can be extended to other woodwind and brass instruments in the future. We chose to focus on two types of flutes: the recorder, because it is relatively easy to play and maintain a stable pitch, and a simple transverse flute.

The project to date has involved designing and printing flutes based on pre-existing models, then extending this work to explore the effects of modifying several variables, such as the position and size of tone holes, as well as the shape and dimensions of the bore of the instruments. These are parameters that normally cannot be varied using standard manufacturing methods. We have also developed two different types of mouthpieces for a recorder and transverse flute, with the aim of producing a set of microtonal flute bodies with interchangeable mouthpieces. The long term goal of this new approach is to create a system in which, instead of the manufacturer dictating the tuning, customers are able to specify the tuning of their instrument for their own unique needs and have it printed on demand.

1.   REFERENCES

Narushima, T, 2013. Mapping the Microtonal Spectrum Using Erv Wilson's Generalized Keyboard, (PhD thesis), University of Wollongong, Australia.

Schneider, J. 2004. "Just Guitar." Guitar International, 6: 42–50.

WRITING THE WRONGS OF HISTORY: LISTENING AND THE DISCOURSE OF GENDER IN ELECTROACOUSTIC MUSIC

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ABSTRACT

This paper will discuss systems of value surrounding electroacoustic music by engaging with the epistemological formation of its discourse in relation to representations of gender. I will argue that history books have perpetuated and thus solidified androcentric versions of the history based purely on assumptions that women did not exist. Whilst these claims have, to some degree, been unpacked and scrutinised in the broader Western art music realm, they are still very much axiomatic to electroacoustic music discourse and literature. In more recent times crucial work has been undertaken to address this exclusion (see for example Elizabeth Hinkle-Turner and Tara Rodgers). However, this lack of female representation within academic literature, I argue, goes well beyond visibility. I consider the formation of knowledge about the music as gendered (especially in relation to the way the music is written and spoken about) and suggest this significantly impacts the way we listen to it. The aim of this paper then is to render visible the mechanics of exclusion thereby calling into question the foundations by which taken-for-granted knowledge becomes accepted as fact and, through my examination of the creative capacity of this gendered discourse, I will imagine how this might be taken up in listening practice.