

Audio-visual Granular Synthesis Performance Demo

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ABSTRACT

In this paper, I present a prototype of my audio-visual granular synthesis instrument *Kortex*. The instrument enables real-time improvisation of audio-visual material in a performance context. Granular synthesis is a processing technique that segments media into thousands of individual pieces and is used during the performance to manipulate audio and visual material on micro time levels (1-100ms). The performance demonstrates an approach to real-time improvisation of audio-visual granular synthesis and aims to illustrate an alternative form of interactive entertainment. A single performer embodies the role of both the musician and visual artist simultaneously, contrasting the usually separate audio and visual roles found in the contemporary DJ and VJ scene. The integrated audio-visual performer is then able to communicate ideas and meaning to an audience with the help of both senses at once.

Categories and Subject Descriptors

D.3.3 [User Interface]: User Centered Design.

General Terms

Performance, Design, Human Factors.

Keywords

Audio-visual Granular Synthesis, Live Cinema, Improvisation, Interactive Entertainment.

1. MOTIVATION

Live cinema is an emerging arts practice forming from an intersection between computer music and experimental film and video [2]. Contemporary similarities exist between live cinema and the VJ scene. Both practices share an eagerness to explore new visual technologies in order to portray unique artistic visions [3]. VJs resemble DJs in that they generally mix pre-existing material created by another artist. Typically, the VJ is required to mix appropriate visuals alongside DJs they may or may not have heard before. This excludes the VJ from the compositional process as they usually work 'after the fact' of music creation [1]. In contrast, the artistic essence of live cinema seeks to develop audio-visual objects that D'Escrivan describes as unified compositional/performance units [1]. The live cinema artist constructs these indivisible audio-visual objects so as to develop their own unique creative voice.

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2. APPROACH

Kortex was developed to provide the performer and the audience with a tightly synchronised audio-visual experience. Pre-assigned relationships between audio and visual parameters allow the performer to improvise with unified audio-visual objects. These objects are then manipulated by the performer in a manner analogous to jazz music improvisation.

During the performance the audience is seated facing the projection screens in a traditional cinema context. Unlike in traditional cinema, the audience is not exposed to a linear narrative story line and are instead asked to assign meaning to the non-linear abstract audio-visuals produced by the performer. The mind of the viewer is assigned to contemplate the works abstractness, filling in the blanks to reveal personal subjective meaning. In this case, the role of the audience moves from a passive one (as in traditional cinema) to an active participant in decoding meaning from the work. Figure 1 shows a visual frame outputted by *Kortex* during performance.

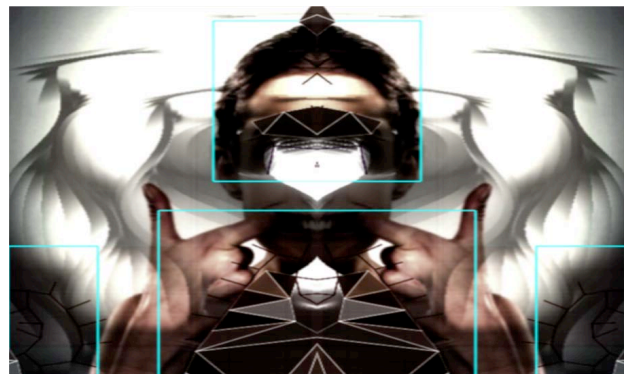


Figure 1. Kortex Visual Output

3. REFERENCES

- [1] D'Escrivan, J 2012, 'Live Cinema? A Composers Thoughts About a Musical New Media Approach to the Performing of Audiovisuals', *Seminário Música Ciência Tecnologia*, vol. 1, no. 4.
- [2] Jones, R 2008, *New Eyes for the Mind*, The Cinematic Experience, viewed 5 March 2009, http://2uptech.com/papers/new_eyes.pdf
- [3] Makela, M 2008, 'The Practice of Live Cinema', *Media Space Journal*, vol. 1.