
Sarah Keith
Macquarie University
Dept. of Contemporary Music Studies
North Ryde, 2109
Australia
sarah.keith@humn.mq.edu.au

Universes of belief: a context-focused framework for performance design

Abstract

The incorporation of new and unfamiliar technologies to musical performance is a recurring practice, both within experimental and avant-garde practices and within more commercial settings. The use of the laptop in real-time music creation represents one example of this incorporation, which occurs across a range of musical and performance settings. A framework has been composed which introduces a range of features to be considered in performance design incorporating new technologies. A central assumption of this framework is the nature of performance as a culturally mediated event dependent on contextual factors. This paper describes the theoretical foundations for situating performance as a culturally defined procedure, how this supposition relates to the framework, and discusses how the framework may be practically applied.

Introduction

This paper explores a context-focused approach to designing technologised musical performance. It will examine the theoretical basis for this stance, and introduce a four-step framework building on this principle. This framework is intended for practical implementation in the construction of novel performance systems.

Current Research

The formulation of this framework constitutes a part of the author's current objective of designing a laptop-based performance environment for contemporary electronic music. The term contemporary electronic music refers to the popular music form commonly referred to as "techno" or "electronica" which originated in the mid-1980s and exists in diverse manifestations today. Performance approaches to music of this broad type are historically derived from the turntable DJ paradigm. Throughout the last decade, however, advances in computing power have enabled the live playback and manipulation of digital audio. This development has compelling applications for musical performance, particularly with regard to techniques explored within the computer music community. To date, my research has consisted of exploring the features and commonality of these two diverse musical fields. This examination has led to the framework I will be discussing, which will be used to structure the creative component of the author's doctoral thesis, due for completion in late 2009.

As this undertaking involves both an analytical and a creative component, two roles are required; that of the researcher, and that of the artist or per-

former. Incorporating these two roles involves formulating a methodology to relate the technical to the creative aspects of this project.

Theoretical foundations

Much computer music research corresponds to classical Western musicology, where musical text and intra-musical elements are prioritised over context and extra-musical details. This approach is not suitable for analyses of performance for two main reasons. Firstly, musical performance is representative of a transaction between an individual (a performer) and a given cultural field, and so requires a consideration of context. Secondly, although the areas of contemporary electronic music and computer music possess a very broad technological similarity, their aesthetics are different. No shared cultural framework exists, and both areas must be re-appraised in order to determine how they may be related. These two assertions will now be explained in more detail.

The theoretical link between creative works and contextual factors has been explored by several researchers. Mihaly Csikszentmihalyi, in his study of the process of creativity, concludes that creativity is invariably the result of an interaction between an individual, social institutions, and the cultural domain (1988: 325).

Regarding performance, theorist Marvin Carlson identifies that all performance (theatrical, musical, or other) exists according to at least one of three principal concepts (1996: 4). The first is defined simply as the display of skills (ibid). The second is the display of recognised and culturally coded patterns of behaviour (ibid). The third is the demonstration of success in an activity in light of existing standards of achievement (ibid: 5).

Phrases such as 'display of skills', 'culturally coded patterns of behaviour', 'demonstration of success', and 'standards of achievement' underline that performance exists as a qualitative function of a given social group or culture. Its methods, and the judgement of its success, are contingent upon culturally determined principles, such as skill and established behaviours.

As stated earlier, this research, as a practical undertaking, involves the roles of researcher and artist. As a researcher, defining what constitutes notions such as 'skill' necessarily involves examining the practices of a given musical performance culture. The work of sociologist Pierre Bourdieu is of use here, particularly the notions of cultural field and habitus.

Bourdieu's metaphor of the cultural field describes the institutions and conventions that en-

able the production of works of cultural value. The cultural field also determines the discourses and activities that are acceptable within that field. Bourdieu further defines the cultural field as “a separate social universe having its own laws of functioning independent of those of politics and the economy” (Bourdieu, 1993: 162). Knowing which laws, discourses and activities are permitted within a performance culture is ‘natural’ to those who are ensconced within an established group. Attempting to formulate new approaches to performance within a given cultural field, however, compels an active attention to these rules, conventions, and categories. The inclusion of new technologies and techniques directly challenges existing performance practices. Existing practices of the cultural field in which performance is to occur must be assessed, in order to determine whether this new type of performance is congruent with pre-existing codes. Attending to these systems is critical for creating value and legitimacy, as Bourdieu states that the artistic cultural field produces “not only the object in its materiality, but also the value of the object, that is, the recognition of artistic legitimacy” (ibid: 164). Specific aspects of the field of musical performance which may be considered include type of musical output, conventions of venue, and the role of the performer.

An idea linked to the cultural field is Bourdieu's notion of habitus. Habitus can be understood as the residual effects of experience on the individual, which shape how the individual develops subjectivity. The habitus of the subject affects the way that the subject engages in practices. This concept relates to the creative component of this research. Individuals seeking to participate in a cultural field inevitably emerge from a range of different backgrounds, which affect the way in which they connect with the field. As Bourdieu states, “All agents, writers, artists or intellectuals construct their own creative project according, first of all, to their perception of the available possibilities afforded by the categories of perception and appreciation inscribed in their habitus” (1993: 184). By actively examining the habitus of an agent in relation to the cultural field, the subjectivity, specificity and non-universality of the nature of engagement is addressed. In this research, this involves ascertaining the subject's musical preferences and performance capabilities. The intended result is a performance environment that addresses the habitus of the artist.

A final notion proposed by Bourdieu that relates to cultural field and habitus is agency. Bourdieu writes, “To understand the practices of writers and artists, and not least their products, entails understanding that they are the result of the meeting of two histories: the history of the positions they occupy and the history of their dispositions” (1993: 61). Agency is thus used to describe the potential for interaction between an individual and a given context, or, to use the terms above, an individual's negotiation between habitus and cul-

tural field. Performance provides a *moment* for agency to occur and to be evaluated. A successful performance can be understood as an effective demonstration of agency between habitus and the constraints of the cultural field.

The requirement of negotiating the cultural field in the production of artistic value is directly elucidated by Bourdieu:

The artistic field is a *universe of belief*. Cultural production distinguishes itself from the production of the most common objects in that it must produce not only the object in its materiality, but also the value of this object, that is, the recognition of artistic legitimacy. This is inseparable from the production of the artist or the writer as artist or writer, in other words, as a creator of value. (Bourdieu, 1993: 164, italics in original)

Understanding performance within this model accentuates its specificity to a given cultural context. In designing new approaches to performance, an attention to the cultural field is required in order to comprehend existing structures and codes. In actually engaging in performance, confronting the habitus of the performer draws attention to subjectivity. Linking these concepts is agency, representing the interaction between cultural field and habitus, and illustrating performance itself.

Framework

This research asserts that the laptop, as a novel and unfamiliar object, challenges conventional conceptions of performance, which are based in the acoustic tradition. These conceptions of performance are established within the cultural field, and affect the subjectivity of both audience and performer. Effective performance entails an efficient agency between cultural field and habitus. New approaches therefore need to consider cultural field and habitus on a symbolic and semantic level, in order to develop a relationship between them.

The designed framework, which is presented at the conclusion of this paper, aims to achieve this by considering contextual factors in the design of technologised music performance environments. Although it was designed in regard to the specific instance of performing electronic music on a laptop, it is hoped that the framework is broad enough to be used for a range of applications. The framework identifies points to consider in negotiating approaches to performance which seek to engage with pre-defined contexts and constraints.

Each stage in the framework comprises three aspects. The *concept* defines a desired characteristic which is derived from traditional or acoustic performance archetypes. The *object* represents the issue to be resolved in that particular stage. The *action* involves the practical steps which are necessary to attain the *object*, and therefore the *concept*.

1: Instrument, Structure, Identification

Stage 1
Concept: Instrument
An instrument-focused function for the laptop performance environment
Object: Structure
Definition of fundamental actions, interactions, and output
Action: Identification
Identifying and prioritising musical aspects to be incorporated to performance

Figure 1. Framework for context-focused laptop performance environment design: Stage 1

The first step in the framework aims to situate the laptop as an instrumentally-derived means for music production, rather than a functional tool for controlling output. Central to this venture is the definition of interactions. These interactions proceed from the desired musical output. For instance, certain musics may require precise tonal or timbral modulation, whereas others may involve altering complex rhythmic structures. These attributes may be derived from the cultural field, as conventions of musical genre, or from habitus, as the composer or performer's own preference. Based on these characteristics, musical behaviours need to be identified so that interactions can be determined accordingly. Once behaviours have been established, they may be categorised according to their importance to form a usable map of interactions.

2: Expression, Behaviour, Representation

Stage 2
Concept: Expression
An instrument capable of performability and expression
Object: Behaviour
Specification of musical behaviours to be carried out in performance
Action: Representation
Representing desirable musical performance actions as objectives executable by the computer

Figure 2. Framework for context-focused laptop performance environment design: Stage 2

The second step aims to implement these behaviours within a computer-based environment. This involves translating identified behaviours to a format intelligible to the computer. In other words, these variables need to be rendered as semantically precise structures. As an example, generative processes may be employed in order to allow the performer to assume higher-level control over musical processes. Tailoring these processes and their contingent variables is necessarily a detailed and technical undertaking. The object of this stage is to ensure that the computer-mediated musical output is representative of the performer/composer's own preference, as well as the boundaries of the musical style in which the creative work is situated. Significant consideration is required in order to ensure that the generated output is musically satisfactory. The purpose of this undertaking is to define the artistic habitus of the performer, thereby constructing a potential for agency.

3: Virtuosity, Interface, Execution

Stage 3
Concept: Virtuosity
A potential for learnable and skilled interactions
Object: Interface
Mapping of appropriate physical input to desired musical output
Action: Execution
Effectively implementing identified structural and behavioural characteristics in the performance environment

Figure 3. Framework for context-focused laptop performance environment design: Stage 3

The third stage attends to the transaction between performer and computer through the hardware or software interface. The central concern in this step is the effective mapping of performer input to sonic output, in order that processes can be practically controlled in a performance context. This may involve a simple one-to-one mapping of gesture to acoustic result, or more complex relationships. Incorporating complex mapping harnesses the processing capabilities of the computer, and simultaneously addresses interactive limitations in the production of complex output. A vital concern at this point is the cognitive and physical limitations of the performer with regard to the number and complexity of control options. An associated issue is the design or choice of control interface, determined subsequently to the establishment of interactions, mapping strategies, and scope for control. A final point that may also be addressed at this stage is the intelligibility of interactions to an audience. In a performance context, the audience can be

understood as an aggregate of individuals constituting a manifestation of the cultural field. The target of this stage is thus to ensure that performance agency can be fulfilled.

4: Completeness, Evaluation, Usability

Stage 4
Concept: Completeness
An environment which is conceptually sound and sustainable across a range of performance instances
Object: Evaluation
Critical evaluation of the success of the system constructed, with reference to contextual factors
Action: Usability
Refining the practicality of the system, including comprehensibility for both performer and audience

Figure 4. Framework for context-focused laptop performance environment design: Stage 4

This stage aims to critically appraise the usefulness of the designed system and identify avenues for improvement. The principal notion here is *conceptual completeness*, a term coined by performer and researcher Bob Ostertag (2002: 13). This phrase is used to define an instrument that is sustainable across a range of performance instances and resistant to obsolescence. The central determinant of success of a developed performance environment is its flexibility and responsiveness to the musical needs of the performer, allowing for agency to be carried out. To this end, considering the potential of the environment for improvisation may be used in assessing its conceptual completeness. Allowing for expansion and modular additions to the system, in terms of embedding a potential for new interactions, is likewise an important aspect of the environment's flexibility. Finally, it is important to consider subjective as well as technical judgments of success and failure, including aesthetically and culturally informed factors such as quality of musical output and visual and communicative aspects of performance.

Application of the framework

This framework fosters the implementation of instrumental skill, virtuosity, and expressivity to computer-based music performance, based on an attention to the cultural field in which creativity occurs. This will ideally promote the construction of environments capable of less restricted, non-linear and improvisational music creation according to performer-specified musical goals. The framework is being practically applied in the de-

velopment of the creative component of the author's thesis, as mentioned at the outset of this paper. Currently, Stage 1 (Instrument, Structure, Identification) is the main focus, and musical behaviours and interactions are being prioritised. Aspects of other stages have also been considered, such as the construction and control hierarchies of generative procedures which will be used to produce output. Interfaces have been considered, with the commercially available Novation ReMOTE ZeRO SL MIDI controller (Novation DMS Ltd, 2008: np) and Wacom Cintiq graphics tablet (Wacom, 2008: np) presenting the most promising possibilities at this point. A functioning model is scheduled for completion by end 2008.

Conclusion

This paper has proposed that performance is contingent upon an understanding of contextual factors derived from the cultural field. To this end, the development of a performance environment incorporating relatively new technology, such as the laptop computer, needs to consider the existing cultural field in order to create a coherent means for performance. Achieving effective performance, understandable as an instance of agency between cultural field and habitus, is both a technical and a musical process. This requires an analysis of how desired features of performance and appropriate musical output may be practically implemented. To this end, the framework presents these concerns in a cogent structure that can be used for the practical construction of a performance environment.

References

- Bourdieu, P. 1993. *The Field of Cultural Production: Essays on Art and Literature*. Polity Press, Cambridge
- Carlson, M. 1996. *Performance: a critical introduction*. Routledge, London
- Csikszentmihalyi, M. 1988. *Society, Culture and Person: A Systems View of Creativity*. In Sternberg, R. J. (ed), 1988. *The Nature of Creativity: Contemporary Psychological Perspectives*. Cambridge University Press, New York
- Novation DMS Ltd, 2008. *Novation Music | Global | Products | MIDI Control | ReMOTE ZeRO SL*. http://www.novationmusic.com/products/midi_control/remote_zero_sl/ - Accessed 21/03/08
- Ostertag, B. 2002. *Human Bodies, Computer Music*. Leonardo Music Journal, Vol. 12, pp. 11-14
- Wacom, 2008. *Cintiq Product Information*. <http://www.wacom.com/cintiq/> - Accessed 21/03/08