Immersion : An immersive digital application for creative interaction with sound art archives

J_Milo Taylor
London College of Communication
CRiSAP Unit (Creative Research into Sound Arts Practice)

ABSTRACT

My research involves a study of historical and contemporary sound art from a digitized postmodern perspective. Previous theorizing of the field has proved problematic, reliant as it has been upon natural language, the silent page and a passive listening experience. Sound as a medium remains ephemeral, site-specific, connective and immersive.

My work proposes that in a post-literate society, possibilities suggested by immersive digital technologies offer an alternative understanding of creative practice and associated discourse. It is an intention that theory and practice coalesce in an open digital space that embodies the divergent and dispersed nature of historical and contemporary sound art.

A significant output of the project is a demonstration of the immersive digital computer application ImmApp that offers a unique presentation of sound art. A digital research methodology makes it possible to assemble, interrogate and manipulate primacy and secondary sources, and within the context of performance, to explore the spaces inside and between digital artifacts.

1. INTRODUCTION

1.1. The increased exposure of Sound Art in the Late Twentieth Century

The early to mid 1990's saw an upsurge in the exposure and circulation of what is variously called 'sound art' or 'sonic art'. In such work, the auditory is given a rare foregrounding over the unquestionable dominance of the visual in western art practice. Closely associated with the emergence of affordable technologies and considerations of the contextual contingences of presentation, network and telematic art and the continued development of intermedial practice, the rather sudden proliferation of sound art within galleries and museums highlighted a serious absence of theory or of any significant literature contexualising a rather liminal and apparently new form of artwork.

1.2. Subsequent Theorisings and Mappings

The various responses to this which have subsequently appeared ([1], [2], [3],[4],[5],[6]) have approached their theorizing and mapping of practice from within natural language, or through an impoverished engagement with digital strategies, as typified by the unreconstructed adoption of inherited print-based page layouts of UbuWeb [7], The Australian Sound Design Project [8] and The Sonic Arts Research Archive [9].

While search engines on such sites present an alternative semantic entryway into creative practice, subverting the linearity and sequentiality evident in written texts, these resources remain structured along more or less modernist lines with material organized around specific artists, geographical locations, and temporal events.

1.3. "Noise, Water, Meat": A Nodal Approach to Sound Art History

In 'Noise, Water, Meat' Douglas Kahn [10] provides some precedence for a radically different approach to an art history of sound. While the book is admittedly problematic, uneven and idiosyncratic and has been critiqued for its many shortcomings ([11], [12], [13], [14]) in its contextualization of an art of sound within wider creative modernist practice it offers a perspective that until its appearance was sorely lacking. While the results of his approach reinforce a culturally entrenched view of sound art based in high modernism, his method is worthy of closer scrutiny.

The book is divided into three sections, noise, water, and meat, which for the purposes of this paper I will call *nodes*, defined as organizing tropes around which practice can be seen to converge. Kahn uses these nodes not only to demarcate areas of sound art practice, but also to connect these, in unexpected ways, to contemporaneous cultural changes. In the section 'Water' for example the node is used in a complex discussion of a shift in creative practice occurring in the early 1950s.. A node, water, is then used to articulate a disciplinary dissolution that "would come to signal a greater saturated and fluid state within the late modernist arts" [10] pp 244].

2. THE IMM|APP

"A synthesizer places all of the parameters in continuous variation, gradually making 'fundamentally heterogeneous elements end up turning into each other in some way."(pp 121 [15]).

The above quotation from Deleuze and Guattari provides some insight into the overall aim of the research process; the development of a unique means of interacting with a historical practice. While the ImmApp will involve significant aspects of sound synthesis, the above quotation should be understood as metaphorical and an opening out of post-structural cultural philosophy into an example of embodied and applied digital sound practice.

In some ways the ImmApp can be understood as a conceptual or cultural synthesizer; using the flattening of difference typical of digital technology to create spaces and tensions between divergent practice in order to investigate broader historical developments within sound art. Recent work has centered upon a number of activities:

- Database Design | MySql.
- Data Gathering.
- Search Mechanisms and the Nodal Approach Expanded.
- Dynamic Generation of Spatialised datascapes in response to MySql queries.

2.1. Database Design | MySql

Of primary interest, and an early operational goal of research was to establish a robust research methodology with regards to gathering and managing information. The vision informing decisions at this point were based upon contemporary web design, with particular interest in the possible vectors suggested by Web 2.0 discourse and open source software. Through a creative and subverting use of available technologies, a unique application may be developed.

The first stage in this was to install a database and server technology. The rationale behind this activity suggested that the combined use of a server and relational database bundle, conventionally used to deliver dynamic web sites from geographically remote sites, can be usefully deployed on a single, non-networked computer, facilitating rapid and scalable data retrieval and data manipulation functions.

The MySql relational database is ubiquitous in contemporary database design. Open source, scalable and free, it is used from the smallest of dynamic data applications to the most demanding of situations such as Google and Wikipedia. It has a light footprint, is fast and runs easily on the also open source Apache server technology which has also been adopted for similar reasons.

In contradistinction to the linearity of language used in natural language, the structure of MySql operates 'relationally' as an array of interlinked and reconfigurable tables of information, each of which can be reorganized according to on the one hand processed and search mechanisms designed by the developer, and on the other hand, criteria provided by the user of the application. As such, this represents a radically altered relation between author, reader and text, if indeed we can call these by these names within the context of such an application. The focus of the work should not be understood as an unpicking of semantics of these terms, but rather upon the specificities of sound art practice, the discourse surrounding this, and the potential of a dynamic immersive application to provide an alternative understanding of what such practice and discourse involves.

To clarify this further, the application is designed for a single performer, someone versed in sound art and digital technologies, it will run from a discrete machine (meaning that remote access to the database and collaborative use, while of interest in the longer term, remains outside the scope of the current project) and it will be used in a performance context, supported by immersive sound and multi-screen video.

A key step in my research method has been the design of the MySql database architecture; as of early May 2007 this structure consists of 8 tables, each containing a number of relevant columns:

It should be noted that this structure remains open and flexible and has undergone gradual evolution as sound art data has been gathered.

2.2. Data Gathering

Following work reviewing contemporary and historical sound art practice in terms of a traditionally styled context review, an initial sample of 20 sound artists was taken, and an in-depth search for relevant material was undertaken.

There were two main strategies in selecting artists; firstly, a 'control group' of core sound artists, those artists reported as being such, who individually claim that for themselves, (Christina Kubisch, Christian Marclay, Ros Bandt for example), and secondly, more liminal artists, working on the edge of sound art practice. It soon became clear that a larger sample of artists and works was required, and the number of case studies increased over a period of three months from September to December 2006 from the original 20 to 150. This increase was decided necessary, if not to provide a comprehensive coverage of sound art practice, then at least to open up a space inclusive of as much diverse activity as possible in these early stages.

2.3. Search Mechanisms and the Nodal Approach Expanded

The next step in the development of the application is the means by which the data can be semantically manipulated, and this is achieved through a sophisticated search engine which will act to shape and morph a dynamic immersive datascape. We can view this on two levels; first by a review of the nature of the data to be accessed, and secondly by a discussion of database search techniques.

The nature of the data has been shaped in a way comparable to the strategy of selecting artists to be included in the database; a balance of the conventional and established with the unconventional and exploratory.

The former can be applied to the inclusion of such staples of modernism as 'artist', 'location' and 'year'; self explanatory discrete units that run through discourse. It should be quite apparent how these inter-connected elements relate within sound art and how a digital application may space returned queries based

upon historical and geographical co-ordinates. First efforts will be directed towards grouping data from proximate years and locations closely together, and data separated by greater spatio-temporal distance further apart; it is noted that these conventions are open to questioning and dependant upon progress in the development of the application; they may be challenged as structuring forces, and it is hoped that through the second category of association that this will be made apparent.

This second category reflects the nodal approach instigated by Kahn, as discussed above. Each artist and work has been cross referenced with up to 6 of 102 key terms (nodes). While some are used reflectively within discourse (installation, music, laptop etc) other terms have not been directly addressed or are strangely absent as a focus of discourse yet appear potential sites of significance within the dataset (queer, ocean, steel, gender, race for example). Statistical treatment of nodes which are likely to appear with others, or are less likely to appear with others, will provide the numerical basis for associating data in space. Further to this, the semantic richness of the returned dataset will be enhanced through Full Text Indexing, a useful feature of MySql 4.0.1 and above. This involves a double query where not only directly related results are returned, but also 'neighbors' that are associated with the original search criteria according to some degree of regularity.

By this time, I hope to have demonstrated my intention to present sound art as a number of dynamic and interrelated elements, described in part by geography and historical placement and further modified through a shifting array of nodes, mapping practice based on a direct investigation of materials, techniques, and more slippery tropes suited to this type of method. A combination of softwares (MySql and Apache server) has been selected and developed with a view to establish a semantic base for the application as fluid, fast, reliable and relational as possible.

2.4. Dynamic Generation of Spatialised Datascapes in response to MySql queries

Web 2.0 has seen VRML (Virtual Reality Modeling Language) superseded by the xml based .x3D protocol [16] which is an royalty-free run-time open architecture being developed to deliver 3D data across applications.

While there are many possibilities for developing in digital 3D space, ranging from top-end feature film standards (e.g. Maya, 3D Studio Max) to slimmer applications designed for online content, .x3d counts among the most challenging with regards to this project. Here I am interested in run-time generation of 3D space in response to a performative interaction with a database. The emergent properties of an environment generated in this way are of great creative interest, especially when coupled with an 'open' dataset able to be updated and modified at any time. These run-time possibilities offer an approach very different from pre-rendered scenes that share much with the closed texts of the printed page.

While an immersant in a pre-rendered virtual world may have choices in the way that s/he may interact with the virtual world, the world itself is static, in a comparable way that architecture in the real world is static. A run-time environment is generated 'on the fly' and constructed according to the semantic search string. Due to this, the virtual architecture is fluid and dynamic, modeled on nothing found in the physical world.

Following this brief overview of the application, I will now provide a short comparison between a traditional text-based presentation of sound art, as provided by Douglas Kahn, with that of an alternative narrative created by an early version of the ImmApp. For the sake of this discussion, I will focus upon the node 'Water' selected by Kahn in his text 'Noise, Water, Meat'. I will give a short précis of his version of 'water' in relation to an art of sound, and open up a short discussion of water from an admittedly primitive early iteration of the ImmApp, which while in its current state has none of the sensory richness anticipated in more developed later versions, proves a certain value in this methodology, still based though it is in the problematic semantics of natural language.

3. WATER FACE-OFF: THE KAHN Vs IMMAPP INFOCLASH

3.1. Water from Kahn's Printed Page

The second section of Kahn's book attempts 'a short art history of water sound' and situates this with a retrospective view on the use of worldly water sounds in the earlier art musics of Eric Satie, Richard Wagner, and Henry Cowell, tape compositions by Hugh Le Caine and Toru Takemitsu and a more general watery inspiration found in works by Kurt Schwitters, André Breton, Raymond Roussel, Aldous Huxley, Marcel Duchamp, Salvador Dali. He then dedicates the majority of the section to the discussion of John Cage and Jackson Pollock addressed earlier in this paper, and relates this to operational tendencies within the Fluxus movement and the work of Kaprow and George Brecht.

In essence, this is the total extent of Kahn's exploration; a few passing remarks on Yoko Ono, Andy Warhol, Carolee Schneemann and Meiko Shiomi, ends his analysis. The last reference to a water based art-work being Annea Lockwood's 'A Sound Map of the Hudson River' (1982).

3.2. A Narrative of Water from the ImmApp

The ImmApp returns 18 works, only one of which, Brecht's Water Yam, is mentioned by Kahn. This in some ways is due to the semantic weakness of the existing search mechanism and once full-text indexing is implemented, a much richer response will occur.

However, even in its current primitive state it provides proof of several things. Firstly that the database has been populated with significant evidence of sound art. Of the 18 records returned, 15 different artists are represented

from America, Australia, Austria, Canada, Germany and New Zealand.

An alternative reading focuses on the institutions associated with sound art, ranging from the important Austrian festival Kunst in der Stadt, the Otis Art Institute, Los Angeles, the Hirshhorn Museum and Sculpture Garden, Smithsonian Institute, Washington DC and The Centro Brasileiro Britânico, São Paulo amongst others. It also provides an insight into the diversity of practice with tape compositions, field recordings, instrument design, sound sculpture and site-specific installations all returned.

Finally, acknowledging Kahn's work, this exercise provides some vindication of his rather idiosyncratic method to his history of sound in the arts. While his work connects creative practice to deeper cultural and philosophical debates occurring in modernity and pre-modernity, the ImmApp connects elements historically and geographically dispersed that conventional analysis has not related, fixated as they are upon a small number of possible variables.

4. CONCLUSION

Kahn's 'Water' seems remarkably thin, and leaves the last 20 years of work unaddressed. The stark difference in the material covered by him, and the artists and works returned by the ImmApp I feel is highly pertinent. It not my intention in any way to belittle Kahn's work, but the demonstration above clearly highlights his fixation upon modernist art, and more specifically modernist art music. While Kahn explicitly acknowledges his agenda and his casting of modernism as a static, object-based practice compared to the fluidity and flow of a nascent post-modernism provides an essential background to sound art, his approach delimits and defines the diversity of sound art practice inappropriately. Much contemporary sound art is produced by artists with little or no formal musical training, and music, or musicality is of reduced importance. In addition to this, critics and gallery presentation of sound work connect more closely to a discourse based in fine art than one of music. The works of such artists as Dan Senn, Steve Roden, Max Neuhaus and Janet Cardiff relate to a visual discourse and immersed listening practices within locational specificities that are intrinsic elements of the ImmApp, and these sensory resonances knit tightly with the design and development of a technical solution to a conceptual problematic.

The level of detail provided by the ImmApp, and the primary nature of the information, allows an understanding of practice to develop based in the specifics of practice of individual artists. Through this, and the diversity it represents, we may avoid totalizing overcodings of narrative as typified by Kahn.

Finally, the ImmApp will involve sustained and focused interactions and manipulations of audio visual artifacts, facilitated by the later development of a robust audio engine, potentially based upon the open source CPS software [17]. The choices made in performance, aimed at articulating one or more aspects of sound art, are of a very different order to those made by an author writing text for print media. While I refuse to speculate upon the final experience of this for performer and audience, I remain convinced that this performative presentation of sound art based upon a dynamic database will open a valuable space for a reinvigorated debate on sound art and the potentials of digital immersion.

5. REFERENCES

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