Greenwich Research & Enterprise

UNIVERSITY *of* GREENWICH

Research & Enterprise Investment Programme 2015/16 – Final Report

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School:	**ACH**
Project Title:	The Sound of Open Sources
Funding Stream:	PoC
GRE Reference:	HEIF-PoC-ACH-01/15

Background & Objectives

From the original disclosure document:

> "Many examples of data sonifcation (often referred to as *audio display)* exist, however practical applications (such as neurological and biological monitoring) can often be characterised by a lack of musicality in the audio output - diagnosis, rather than musical expression, being the primary purpose.

> This investigation proposes to explore the process of taking open source data streamed in real time and using it as input control for computerised musical composition and synthesised sound (as opposed to a purely audio display approach), in an attempt to create something that will appeal to audiences as a specifically musical work."

The open data source used is bus arrival time data supplied by Transport for London. The objective has become refined into developing a composition that reads the changing locations of London buses within a 500m radius of a specific geographical point and translates this into a spatially diffused musical piece, presented as an installation in a gallery or similar setting.

Progress against agreed targets, deliverables & milestones

The initial intention was to produce a presentable piece by May/June 2016, however it is taking a little longer than intended due to some changes that I felt it necessary to make. After initially choosing MaxMSP as the programming environment for the composition, I decided to change to SuperCollider. Although I am less familiar with the latter and there is some learning to undertake, it is a more rational choice in the longer term; it's a more agile coding environment and more suited the nature of the data source (i.e. changes to code can be affected more readily).

The data provided by TfL needed a little more refining than expected. It is delivered in JSON format, with many attributes enclosed in a series of nested arrays that need to be parsed to isolate useful information. Surprisingly, there is no available data representing the live position of buses – which is crucial to the intended spatialisation of the composed piece – and this must be calculated from the data that is available (arrival times and location of stops) before being usable as control data for the composition.

The data from TfL is captured and filtered via a web server interface using PHP before being read by the SuperCollider programme. This has the advantage of enabling a user interface to be developed using Google maps in which a listener can click on any location in the London area and the composition will respond accordingly, generating music that will be spatially diffused with respect to the location and orientation of the listener's selection. This has added a little more time to the original schedule that intended, however the payoff in terms of enhancement to listeners' experience by way of interaction is worthwhile.

Bearing the above in mind, it is likely that the first iteration of the composition will be completed around July/August 2016, and I am already discussing presenting the work as an installation in Brighton in November 2016 as part of Colour Out of Space, a gallery event curated by Cherie Viederveld (aka Snoozie Hexagon). I am also starting to approach other galleries and spaces that may be willing to host the work once complete. The

Overall Project Delivery

4. Project has delivered against most of the agreed targets and outputs.

It may be more accurate to state that the project "is delivering" against most of the agreed targets and outputs.

As a proof of concept, this project is certainly proving viable and will be refined and developed into future iterations in due course, based on feedback and external evaluation. The external evaluator / critical friend that I have engaged, Dr John Eacott, has expressed enthusiastic support for the project, and will have completed a written evaluation by the end of July 2016. There is also a tradeoff in terms of teaching, in that this project will provide materials and context for the CPDA depatment's *Datascapes* course, and aspects of curriculum on the new BA Sound Design degree.

Additional comments

The title for the completed piece is likely to be *Arrival Time*.

Signed (Principal Investigator):	
Date:	**13/05/2016**