

THE CAVE OF SOUNDS

An interactive sound installation exploring the power of music to bind individuals together and the visceral urge to use technology to broadcast our identity, *The Cave of Sounds* relates the prehistoric origins of music to the contemporary practice of music hacking where technology is subverted to create original musical sounds and instruments.



The Cave of Sounds installed at the Barbican during the Hack the Barbican festival, 19-26 August 2013.

This installation is formed of eight original electronic instruments, arranged in a circle facing inwards to evoke the cave rituals of early mankind. Each instrument has been designed and created over a period of ten months by a member of London's Music Hackspace as a personal and interactive embodiment of the ideas and mind of its creator, whilst remaining intuitive to allow newcomers to express themselves.

Although music plays a greater role in our lives than ever before, creating music is an activity often limited to trained professionals. Made up of a set of newly conceived musical instruments, *The Cave of Sounds* seeks to disrupt the boundaries between performer and audience. Regardless of training, visitors are invited to actively participate and experiment with new ways of creating and connecting with each other through sound.

Crucial to any musical collaboration is the balance of individual expression with the cohesion of the group. Whilst individual creations, these instruments have been developed as a collective. Every few weeks the group has met to demonstrate and explore how the different instruments work together to let them evolve organically and find their role within the ensemble.

In the hands of its audience, the work is crafted to provoke participants to connect and resonate with each other through musical expression. Software linking the instruments allows them to gently adjust their sounds to converge musically as well as detecting musical connections between participants and visualising them on a central projection of abstract lines.

The Cave of Sounds is the outcome of a ten month residency completed by Tim Murray-Browne with the Music Hackspace through Sound and Music's Embedded Composer in Residence programme. Working closely with a group from this community, the piece is an exploration into the nature of collaboration within the music hacking scene. It was completed and debuted in August 2013.

The Music Hackspace is a hub and focal point in London for those interested in subverting technology to create music. Established in 2011 as an offshoot of the London Hackspace, the group meet weekly to present projects, host performances of experimental music and exchange ideas and skills.

<http://musichackspace.org>

Sound and Music's vision is to create a world where new music and sound prospers, transforming lives, challenging expectations and celebrating the work of its creators. Our work includes composer and artist support and development, partnerships with a range of organisations, live events and audience development, touring, information and advice, network building, and education. We champion new music and the work of British composers and artists, and seek to ensure that they are at the heart of cultural life and enjoyed by many.

<http://soundandmusic.org>

Embedded is a residency programme run by Sound and Music that partners emerging composers and artists with pioneering arts organisations.

Tim Murray-Browne is an artist and creative coder based in London. Murray-Browne works primarily with interactive installation and performance pieces that investigate themes of discovery, self-expression and how these relate through action, movement and sound. Drawing on technology, dance and the psychology of human-computer interaction, he seeks to create interactive works that rely on minimal instruction, highlighting how physical and social interactions inform our understanding of who we are, our place within the environment and our relationships with each other.

Graduating from the University of Oxford in 2008 with a first in Maths and Computer Science, Murray-Browne completed his PhD on interactive music and art at the Centre for Digital Music, Queen Mary University of London in 2012. His thesis investigated the roles of exploration, discovery and individual freedom in creating immersive interactive sound installations.

Murray-Browne's work includes *IMPOSSIBLE ALONE*, an interactive soundscape that may be discovered only through the synchronised movement of two individuals, created with the dancer Tiff Chan, and the *Serendiptichord*, a wearable musical instrument for dancers created with the artist Di Mainstone. His work has been shown around the world at venues including the Barbican, the Victoria and Albert Museum, Berkeley Art Museum, Kinetica Art Fair, the Swedish National Touring Theatre, the Secret Garden Party, Shunt and INSPACE, Edinburgh.

<http://timmb.com>

Each instrument is akin to a musical self-portrait. Exploring how they work provides a window into the mind of its creator and an opportunity for its player to experiment with how this shapes or challenges their own ideas of what music is or can be.

Sonicsphere

Panagiotis Tigas

A palm-sized sphere with an embedded wireless gyroscope used to warp and charter spaces of heavy digital timbres.

Joker

Wallace Hobbes

A punchy drum kit played by wearing a mask and making finger taps onto conductive tape.

The Animal Kingdom

Daniel Lopez

A world of sounds awakened and shepherded by casting hand shadows in the shape of animals.

Generative Net Sampler

Tadeo Sendon

Evolving audio samples generated by sampling the background noise of the internet, triggered by movement through invisible trigger zones detected using a Kinect.

Lightefface

Kacper Ziemianin

A deep drone controlled by shining lamps over 24 light sensors, each of which modulates the intensity of a different harmonic of the fundamental frequency.

Campanology

Dom Aversano

Generative rhythms derived through the mathematics of church bell patterns, controlled through free movement of the hands using a Kinect.

Mini-theremins

Sus Garcia

A hand-made theremin is run through a pitch-tracker turning it into a controller to mangle noise synthesis.

Wind

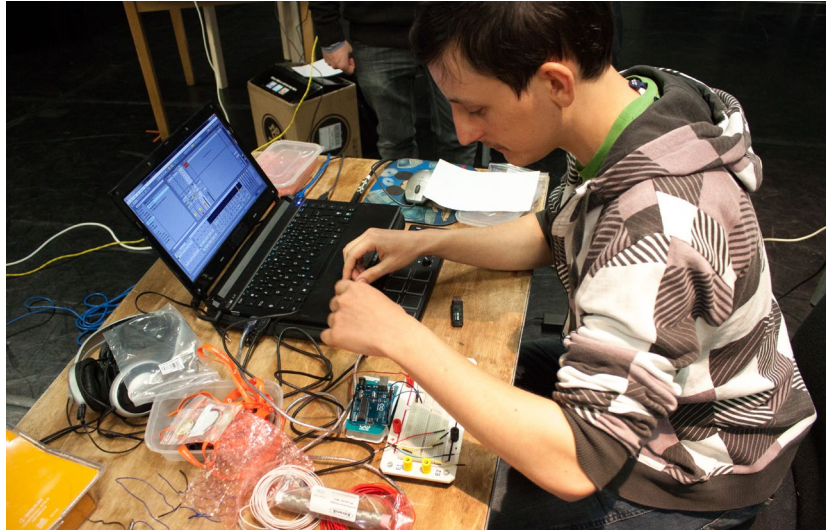
Tim Murray-Browne

A breathy flute controlled by moving the hands around the body through a grid of harmonious notes, sensed using a Kinect.

The work is created for a general audience of all ages who will be free to wander around and experiment with the different instruments with minimal instruction or demonstration.

Whilst the work will provide an engaging experience for a single person, it is more fully experienced when several people interact simultaneously as it has been developed to provoke an audience to make music together, to amplify the intimacy felt within an ensemble and recreate some of the hypnotic power of musical rituals.





Wallace Hobbes working with an Arduino during a workshop in the Pitt Theatre at the Barbican, March 2013.



A regular group meeting of presenting work in progress and sharing ideas, Centre for Creative Collaboration, April 2013.



*Members of the public play *The Animal Kingdom* and *Wind* during a work-in-progress presentation at Music Tech Fest, May 2013.*

The Cave of Sounds began with a non-selective invitation to members of the Music Hackspace to join a project exploring collaboration within the music hacking scene. A core team of eight emerged within a few weeks, all of whom remained committed throughout.

Meeting every few weeks to present ideas, experiment with each other's work and identify what resonated with the group, the development process was effectively a jam session stretched over ten months. Roles were found organically without direction and common motifs emerged around interaction, sound design, visual form and musical structure.



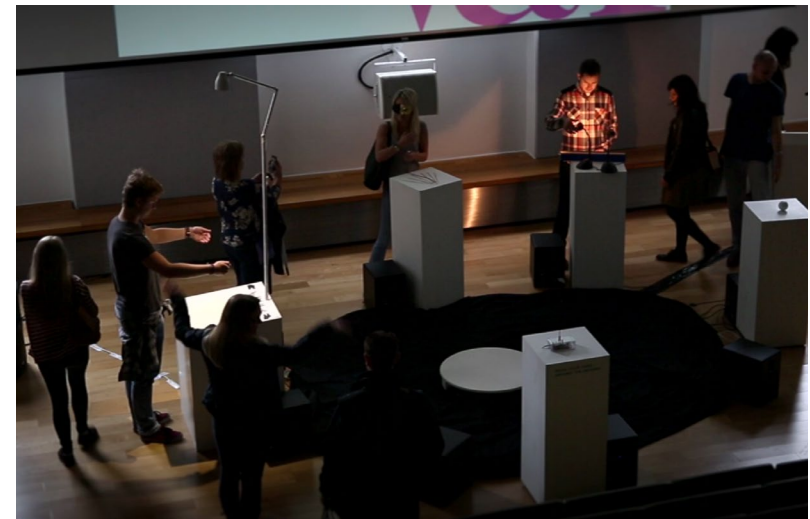
The Cave of Sounds exhibited at the Barbican during Hack the Barbican, August 2013.



Audience members playing The Animal Kingdom at the Barbican, August 2013.



Audience members playing Rockmore at the Barbican, August 2013.



The Cave of Sounds exhibited at the Victoria & Albert Museum for Digital Design Weekend, September 2013.

Audience test / work in progress exhibitions

27-28 April 2013 Hack the Barbican Bazaar
16 May 2013 The Music Hackspace
17-19 May 2013 Music Tech Fest

Exhibition of final work

19-26 August 2013 The Barbican
21 September 2013 The Victoria & Albert Museum
1-3 November 2013 Watermans Gallery

