portfolio*

*more details and documentation of the presented works can be found on

alexandros-k.com

onecontinuouslab.net

Alexandros Kontogeorgakopoulos

Audiovisual Compositions

Alexandros Kontogeorgakopoulos

fractions 2021

Type: live audiovisual composition - experimental Dj/Vj performance

Created by: Alexandros Kontogeorgakopoulos (composition, Djing), George Kontos (film content, visual composition and Vjing), Odysseas Klissouras (film content)

Co-funded by: Creative Europe (EASTN-DC project)

First performance: 14th Audiovisual Arts Festival, Avarts, Corfu, Greece, June 2021

The project aspires to create a subtle immersive audiovisual experience through a dialogue between fragments of music and fragments of filmed spaces. It takes the shape of an experimental Dj - Vj performance where photographic slides, photographs, audio recordings and music are interwoven and entangled. The cross-modal interactions between image and sound to construct an environment that suggests the elimination of time by bypassing any given narrative and enhances a spatial impression.

Link: alexandros-k.com/projects/fractions.html

fragments 2020 -

Type: series of short audiovisual compositions [ongoing]

Created by: Alexandros Kontogeorgakopoulos

fragments is an ongoing series of of approximately one minute musical compositions for videos and still images. The original visual and sonic content consolidate in single audiovisual experience. Both directions in the creation process are fostered: sometime the images or videos inspire the music or symmetrically the music itself influence the generation of the image or short abstract film.

Link: alexandros-k.com/projects/fragments.html

air of rhythms - hand series 2016

Type: live multimedia performance for custom designed air based sonic-tactile instrument

Created by: Odysseas Klissouras, Alexandros Kontogeorgakopoulos

A study based on the customary designed Skin of Air instrument, an air based sonic-tactile instrument for haptic rhythm sensing. The instrument was developed by Odysseas Klissouras. The hand gestures are manipulating and sculpt sonically a constant rhythmic stream of air pulses. The choreography of gestures and their shadows are of equally artistic importance as well as the generated rhythmic audible output.

Link: alexandros-k.com/projects/airOfRhythms-handSeries.html

talandon 2015

Type: interactive music-light performance and composition for a custom designed-made digital musical instrument

Created by: Alexandros Kontogeorgakopoulos

F**unded by**: ZKM | Center for Art and Media (artistic residency)

First performance: GLOBALE: Tangible Sound Festival, ZKM, Karlsruhe, Germany, September 2015

talandon is a live composition for a custom designed electroacoustic musical instrument, the semantron, and light. The music is developed around a basic rhythmic pattern radiated directly from the body of the instrument and from a set of physical models simulating various vibrating structures. The interplay between the rhythmic gestures [form] of the performer and the resonance of the physical and virtual bodies [colour] is enriched, transformed and amplified by the presence of the light component of the composition. Musical sounds and sculpted light create a pure and transcendent soundscape and landscape; silence and shadows express the inner fine values of the work. The composition seeks spirituality and interprets Kandinsky's language of form and colour.

Link: alexandros-k.com/projects/talandon.html

cells 2015

Type: interactive audiovisual composition for the Cardiff Gamelan Ensemble based on the sonification of stem-cell research protocols

Created by: Alexandros Kontogeorgakopoulos (composition, interaction design, programming, electronics), Aris Bezas (programming, projection mapping), Tobiasz Wasyliszyn (film)

Funded by: a consortium of Welsh universities (Welsh Crucible grant funded) in partnership with the Higher Education Funding Council for Wales

First performance: Cardiff University, Cardiff, UK, March 2015

The translation of stem-cell research to the clinic includes critical issues such as reproducibility and quality assurance of cell lines. Currently, the ‘practice’ of stem cell production remains highly idiosyncratic and requires specific craft like skills. Here by utilisation sonification, which is the use of non-speech audio to convey or contextualise complex information, we have introduced a non-narrative (no textual, verbal or video description) approach to assess the practice variations in stem cell research. Cells is an interactive audiovisual composition for the Cardiff Gamelan Ensemble generated from a real protocol. The visual component of the piece comes from real footage filmed in a biology laboratory at Cardiff University. The short films are projected interactively in the performance during the performance using a series of projectors and 3D mapping techniques.

More info about the scientific research behind this work can be found on the short-paper "The Stem Cell Orchestra – A Non- narrative Approach to Communicate Experimental Processes (abstract)“, 30th Congress of the International Society for Advancement of Cytometry, Glasgow, Scotland

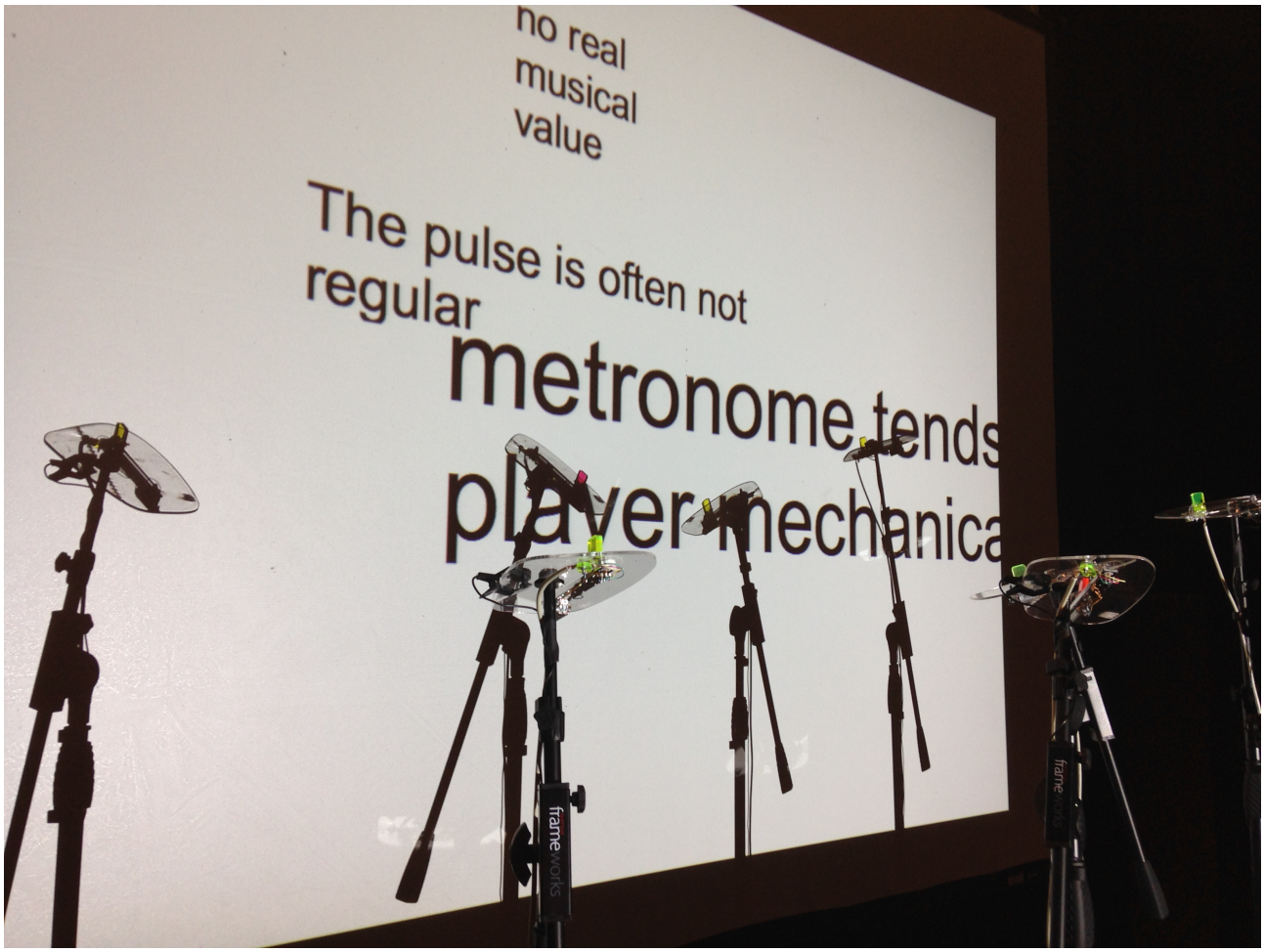
Link: alexandros-k.com/projects/cells.html

metronom 2013

Type: live audiovisual composition for custom made haptic faders

Created by: Alexandros Kontogeorgakopoulos (concept, composition, interaction, performance), Olivia Kotsifa (digital fabrication)

First performance: Arcade Cardiff Gallery, Cardiff UK, May 2013



metronom, which stands for metronome in Welsh, is a live audiovisual composition for a custom designed haptic interface. The interface consist of four haptic faders, and a digitally fabricated transparent acrylic structure, etched and cut according to the requirements of the music and the visual content. The present inter-media performance, is an interactive audio-visual composition and a dance between the hands of the performer and the movements of the haptic interface.

More info about the research and the aesthetics behind this work can be found on the journal paper “Multisensory Instrumental Dynamics as an Emergent Paradigm for Digital Musical Creation”. Journal on Multimodal User Interfaces 14, no. 3

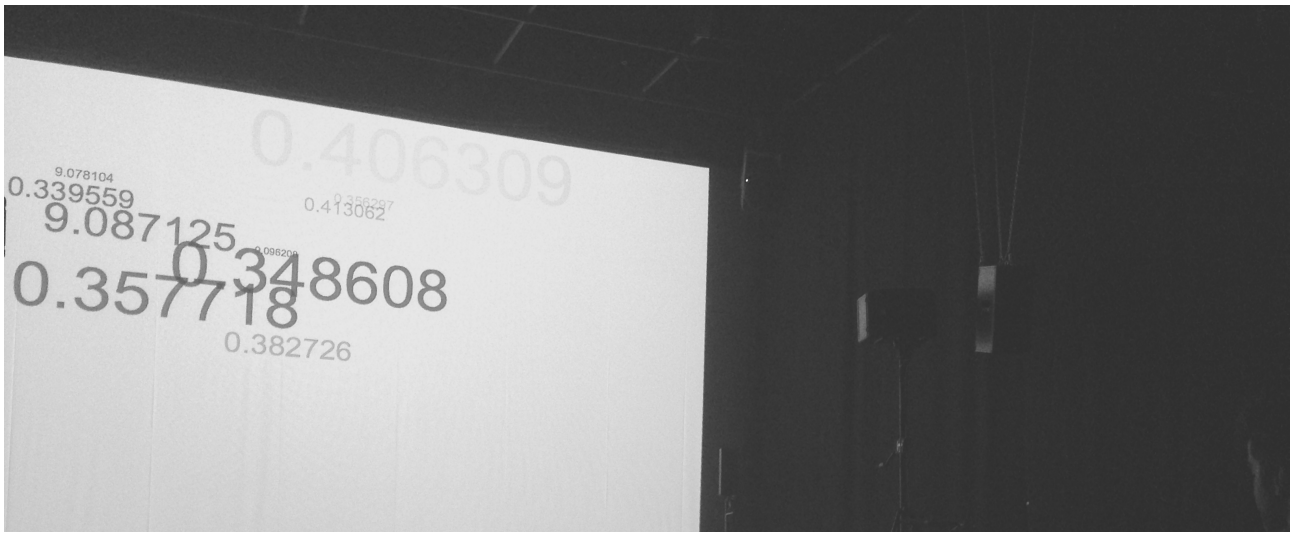
Link: alexandros-k.com/projects/metronom.html

s0’32”9’06” 2011

Type: live audiovisual composition for MIDI keyboard

Created by: Alexandros Kontogeorgakopoulos

First performance: U Artstow art centre, Warsaw, Poland, Mar 2013



s0’32”/9’06” is a piece composed for live electronics and interactive visuals performed by a keyboardist/pianist. It uses a minimalist language and has been conceived and composed for live interpretation. It is based on two almost identical short samples extracted from Arvo Part’s famous piece Spiegel im Spiegel written in the composer’s characteristic tintinnabular style. The two samples have a duration of approximately 10 seconds. The first sample appears at 0'32" and the second one at 9'24" in the recording where have been extracted from.

Part’s piece Spiegel im Spiegel in German means "mirror in the mirror" and is referring to the infinite reflections of two parallel plane mirrors. S0’32”/9’06” attempts to extend this idea into a more complex topology where those infinite reflections are re-diffused and spread across the space. A sustained note becomes a repeated arpeggio and finally an infinite sonic grain before becoming again a sustained note.

Link: alexandros-k.com/projects/s032906.html

Audiovisual Installations

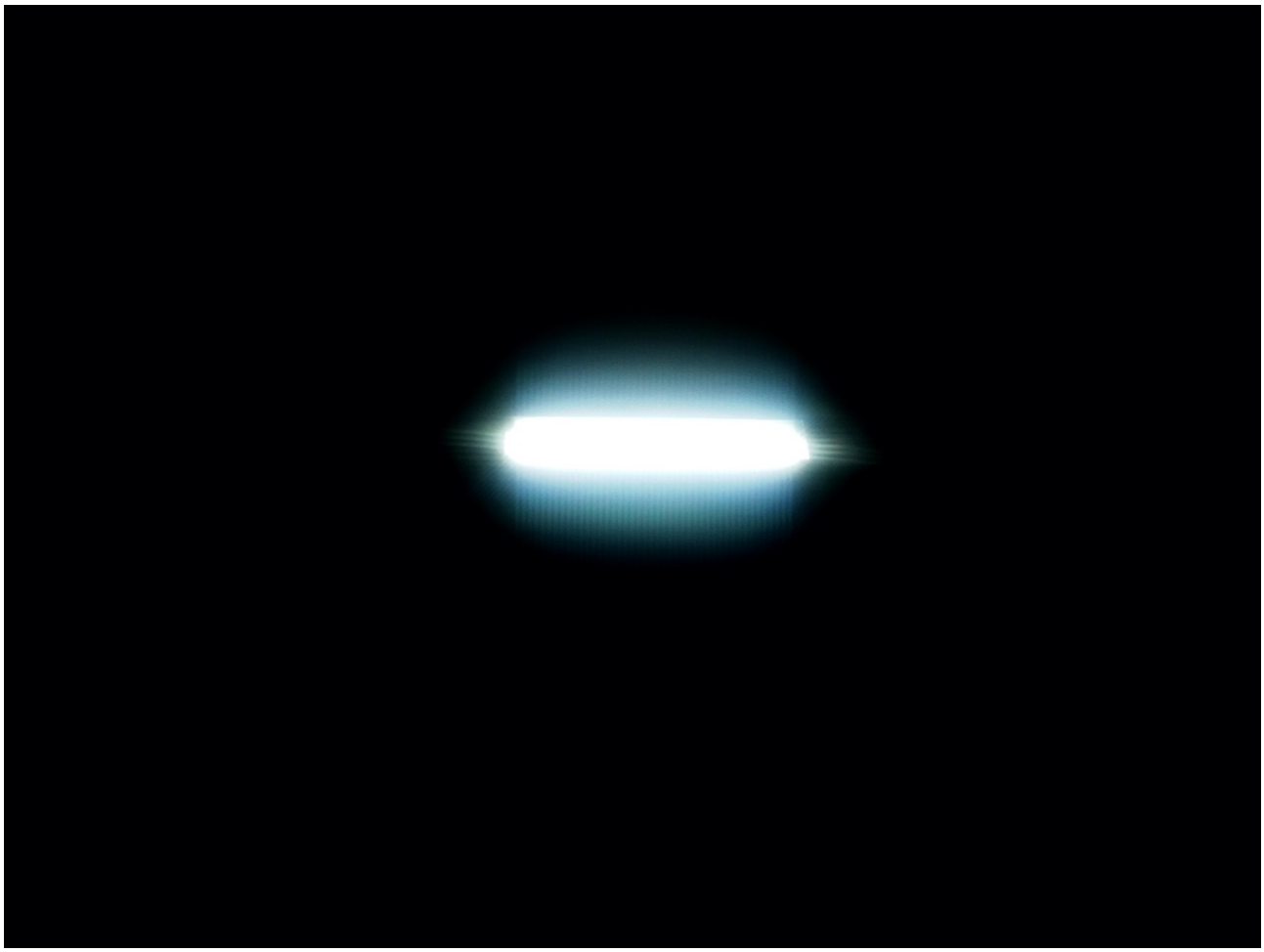
1/x 2020

Type: sound-light installation based on a mathematical function

Created by: Alexandros Kontogeorgakopoulos, Odysseas Klissouras

Co-funded by: Creative Europe (EASTN-DC project)

First exhibition: Osmo/za Gallery Space, Ljubljana, Slovenia, September 2021



1/x is a sound and light art-science installation based on the singularity character of the 1/x function. A system of weighted reciprocal functions generates light flashes and sonic events, while establishes a second singularity point that reverses the system's causality time space. Around the singular points of those functions, an intensive experience is created and the visitor immerse himself into a dramatic environment developed through micro and macro time scales of sound and light.

More info about the aesthetics and the technological aspects of the work can be found in the paper “Temporal-Transformations-and-Spatial-Explorations-in-Sound-Light-Art”, in the Proceedings of International Computer Music Conference ICMC

Link: alexandros-k.com/projects/1-x.html

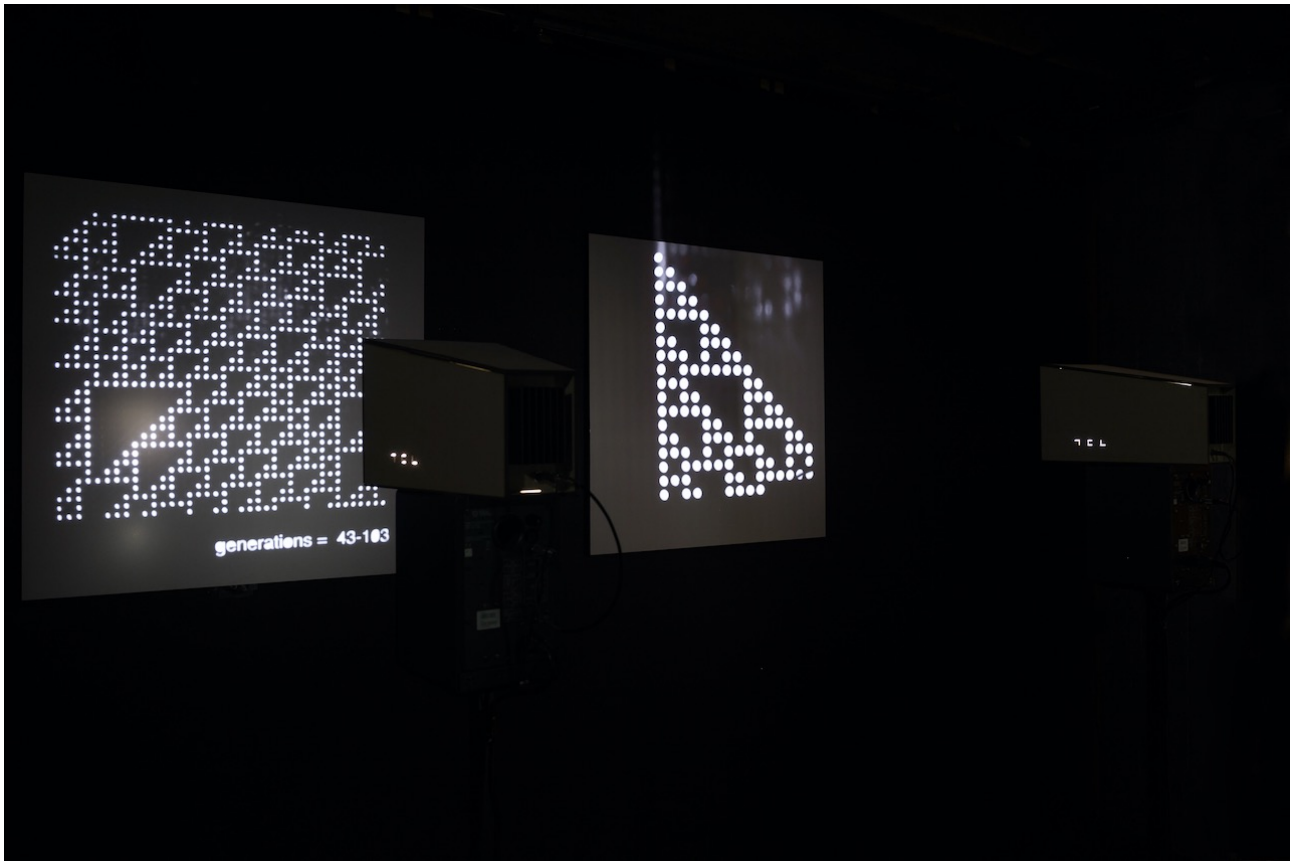
01101110 2019

Type: interactive audiovisual installation based on Cellular Automata

Created by: Alexandros Kontogeorgakopoulos, Odysseas Klissouras

Funded/Commissioned by Ljudmila Art and ScienceLaboratory (artistic residency)

First exhibition: Ljudmila Art and Science Laboratory, Ljubljana, Slovenia, March 2019



01101110 is light-music installation echoing and celebrating the simplest mathematical model of computation. A series of light/shadow paintings depict instances of the evolution of Rule 110 one-dimensional cellular automaton (Rule 01101110 in binary) accompanied by a music layer based on the same process. The paintings are created by digitally fabricated perforated panels and white light LED beams; the panels diffract the light and project it on blanc canvases hanged on the wall of the exhibition space. Each painting offers it's one unique light and sonic space. The automaton Rule 110 is the simplest known Turing complete system and therefore it is capable of simulating any computer algorithm. This piece offers an immersive experience of this remarkable property and reflects on the duality of complexity/simplicity.

More info about the aesthetics and the technological aspects of the work can be found in the paper “01101110: An Audiovisual Installation Based on the Cellular Automaton Rule 110”, in the Proceedings of Sound and Music Computing Conference SMC20

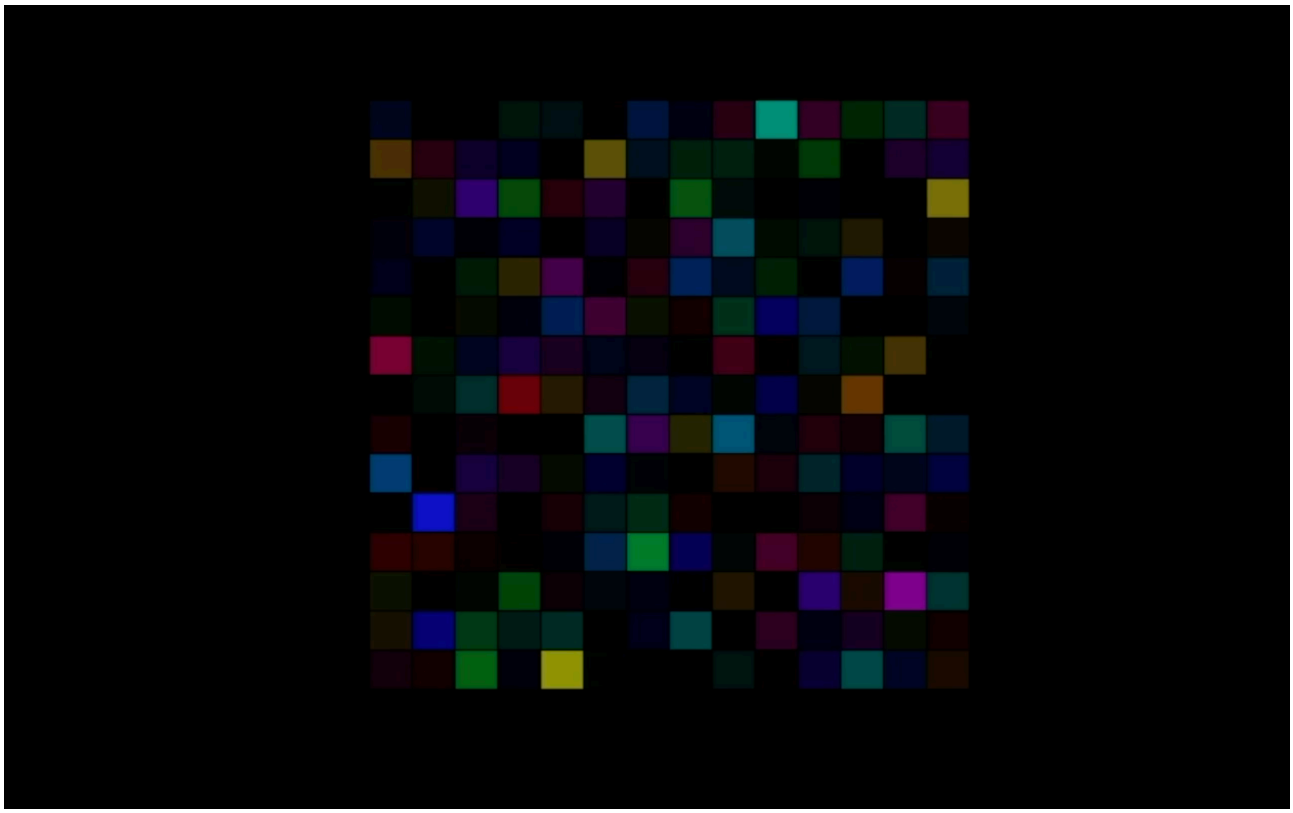
Link: alexandros-k.com/projects/01101110.html

quantum music #002 2018

Type: audiovisual installation based on quantum mechanics sonification and visualisation

Created by: Alexandros Kontogeorgakopoulos (composition, programming for visuals and music), Daniel Burgarth (research in physics)

First exhibition: Manchester University 2018, Manchester, UK, June 2018



The visual component of the piece based on the visualisation of quantum mechanics was created in 2018 while the music composition was written in 2014 (Quantum Music #001) as an Art-Science research project. The minimalistic visualisation developed in Processing programming language draws inspiration from Paul Klee's studies on colour and form and his abstract paintings.

More info about the research of the work can be found in the paper "Sonification of Controlled Quantum Dynamics", in the Proceedings of International Computer Music Conference - Sound and Music Computing Conference ICMC-SCM2014

Link: alexandros-k.com/projects/quantumMusic002.html

instrumental gaitanaki 2014

Type: co-created interactive art installation

Created by: Olivia Kotsifa (concept, interaction design, digital fabrication, co-creation), Alexandros Kontogeorgakopoulos (interaction design, sound design, programming, electronics)

Funded by: the Audiovisual Arts Department, Ionian University (Oliva Kotsifa's artistic residency)

First exhibition: Tsepelovo main square, Greece, July 2014

Gaitanaki is a form of Greek folk circle dance originated in Thessaly and widespread in Epirus. The *instrumental gaitanaki* is an artistic installation that aspires to bring the community kids together. During a workshop, the participants kids learn about the dance, its cultural context and at the same time they gain knowledge in digital fabrication, block printing as well as in sound recording. The maypole ribbons are weaved around the main pole and when touched, trigger the sounds previously recorded by the participants while their motion controls their timbral characteristics.

Link: alexandros-k.com/projects/instrumentalGaitanaki.html

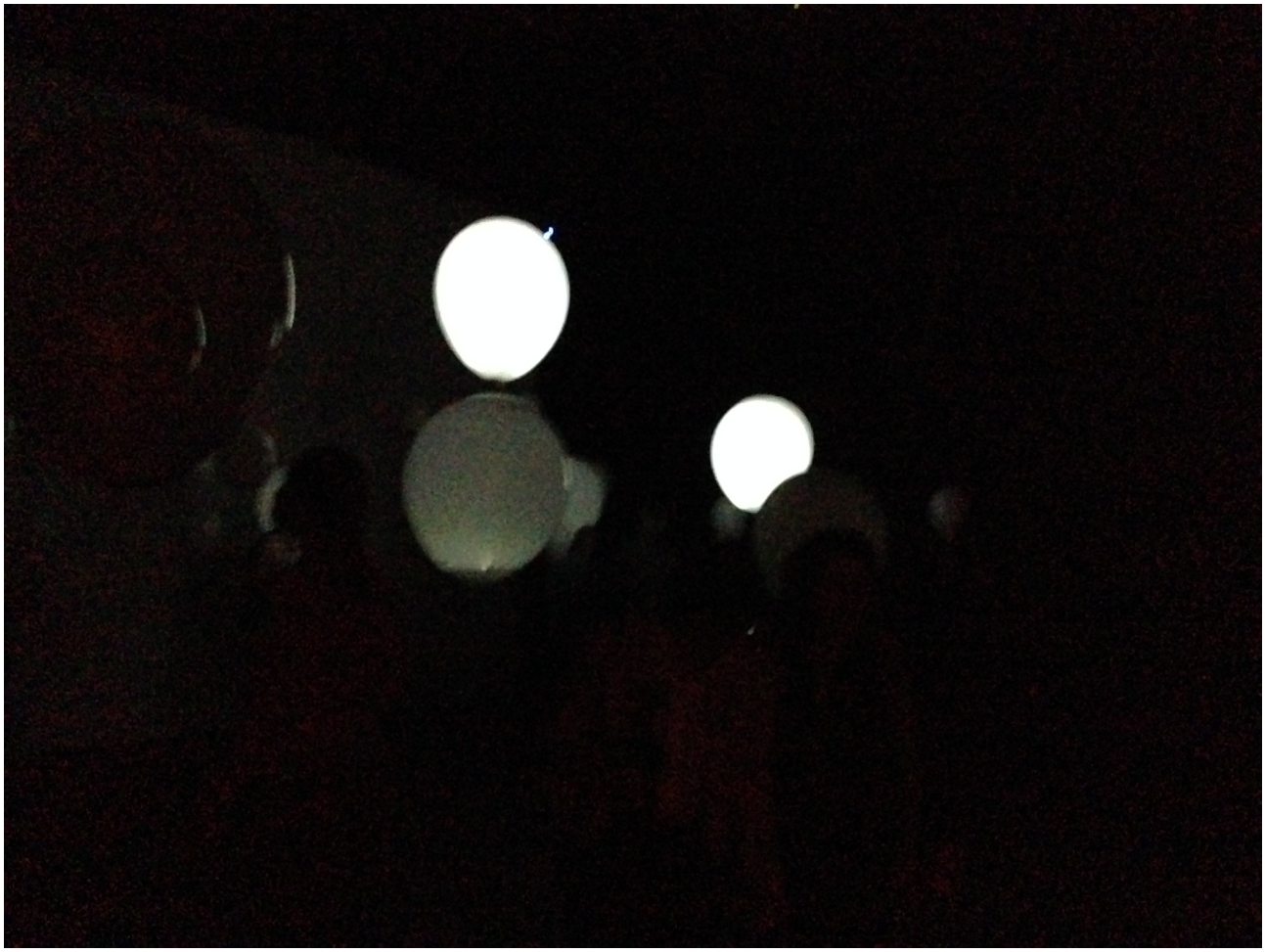
secret garden 2015

Type: interactive sound-light installation

Created by: Olivia Kotsifa (concept, interaction design, fabrication), Alexandros Kontogeorgakopoulos (interaction design, interaction & sound programming)

Co-funded by Creative Europe (EASTN project)

First exhibition: Festival Musica Viva 2015, Lisbon, Portugal, May 2015



secret garden in an interactive spatial sound-light installation which can be created during a workshop. It consists of a series of helium balloons with embedded LED lights, buzzers and microcontrollers, each carrying a unique secret.The participants program their secret in morse-code which eventually gets revealed in the form of light and sound when you touch the ballon strings.

Link: alexandros-k.com/projects/secretGarden.html

tangible sounds / tangible portraits 2014

Type: interactive audiovisual installation

Created by: Alexandros Kontogeorgakopoulos (conception, implementation), Aris Bezas (programming, projection mapping), Jérôme Villeneuve (photography)

Co-funded by Creative Europe (EASTN project)

First exhibition: Tsepelovo Art Gallery, Greece, July 2014

Tangible Sounds / Tangible Portraits is an interactive audiovisual installation. It was created specifically for Tsepelovo, a village in the Zagori region in Northern Greece with materials from the local environment and photographs from the local people. The exhibition visitors are wearing headphones and walk carefully on two zones in the gallery space covered with barks and stones collected from the region. A very sensitive high quality microphone amplifies extensively all those generated micro-sounds coming from their subtle movements and footsteps and immerse the visitors into a loud soundscape. At the same time, the same sounds trigger portraits projected on the wall just outside the exhibition space. The piece suggests a tangible connection between the materiality of the environment and its local inhabitants.

Link: alexandros-k.com/projects/tangibleSounds-tangiblePortraits.html

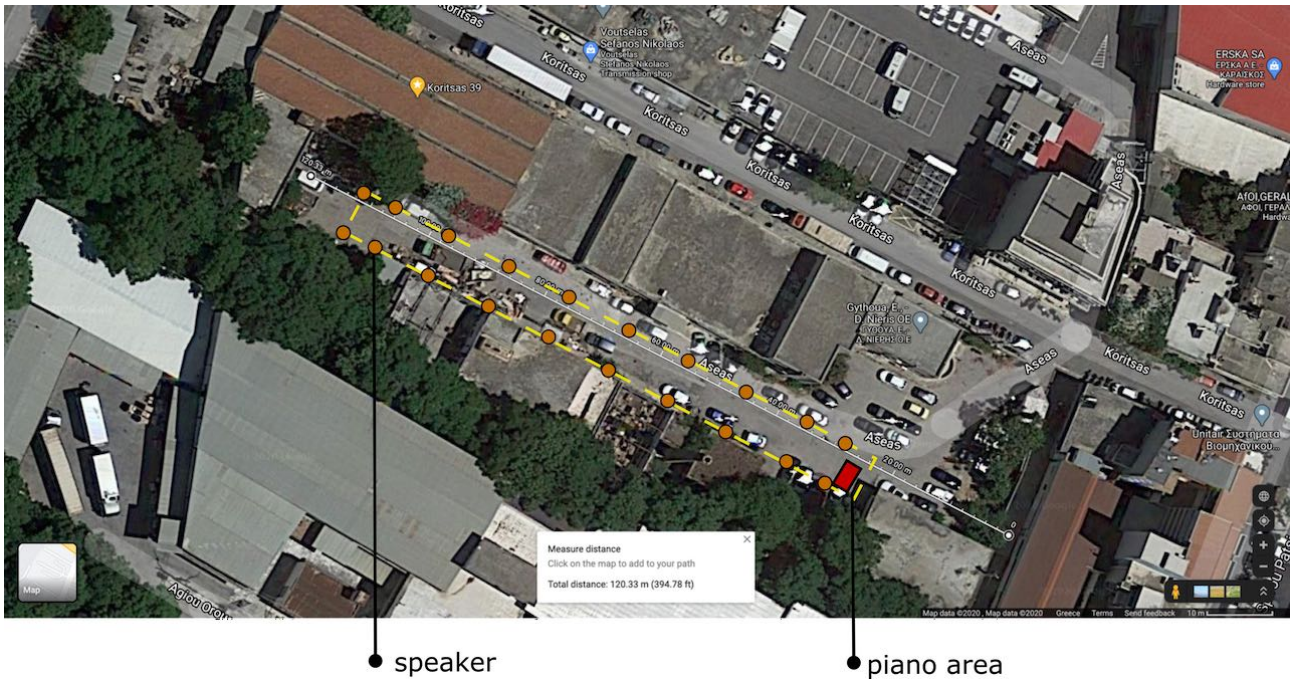
Experimental Compositions

sonate (mod n) 2020

Type: spatial composition for piano remixing the 32 Beethoven sonatas

Created by: Alexandros Kontogeorgakopoulos, George Konstantinou (pianist)

First performance: (cancelled due to Covid-19 restrictions)



sonate (mod n) a spatial piano composition based on the 32 Beethoven sonatas. It was originally conceived for 32 pianist and 32 speakers but it can be performed with less pianist as we will see below. Each pianist selects a phrase freely from a piano sonata and performs it once. The performance is recorded, looped and gets projected spatially in the performance space according to a precomposed trajectory. At the same time the performer starts walking in the area surrounded by the speakers, listening to his piano phrase. Then another pianist repeats the same process. All the phrases move in space according to their unique trajectory and eventually they fade out after a number of repetitions. Only few phrases are heard simultaneously but at different locations in space. The piece finishes when the 32 pianists play 32 phrases from one sonata each. The audience may also follow the pianists and walk around the space in order to experience spatially the performance. The title of the piece comes from modular arithmetic and refers to how the piece may be adapted for fewer pianists by following a simple mathematical logic. The image above depicts an industrial area in Athens where the piece was planned to be performed but it was eventually cancelled due to Covid-19 restrictions.

Link: alexandros-k.com/projects/sonateModN.html

mechanical entanglement 2016

Type: live electroacoustic composition for 3 virtually connected custom made haptic faders

Created by: Alexandros Kontogeorgakopoulos, Odysseas Klissouras, George Siorros

First performance: M.A.D.E Gallery, Cardiff, UK, June 2016

mechanical entanglement is a musical composition-improvisation for three performers, composed and programmed by Alexandros Kontogeorgakopoulos, George Sioros and Odysseus Klissouras. Three haptic devices each containing two haptic faders are mutually coupled between them using virtual linear springs and dampers. During the composition, the performers feel each other's gestures and collaboratively process the music material. The physical modelling parameters of the interaction are modified during the five sections of the composition.

More info about the aesthetics and the technological aspects of the work can be found in the paper “Mechanical Entanglement: A Collaborative Haptic-Music Performance”, in the Proceedings of Sound and Music Computing Conference SMC19

Link: alexandros-k.com/projects/mechanicalEntanglement.html

quantum music #001 2015

Type: algorithmic composition based on quantum mechanics sonification

Created by: Alexandros Kontogeorgakopoulos (composition, programming), Daniel Burgarth (research in physics)

Funded by: a consortium of Welsh universities (Welsh Crucible grant funded) in partnership with the Higher Education Funding Council for Wales

First exhibition: Athens Science Festival, March 2015

Music and Quantum Dynamics share a wave-like nature. Many analogies and surprising connections between the two fields exists, which can be illustrated and explored through sonification techniques. Quantum Music #001 is an algorithmic composition based on controlled quantum dynamical systems. The picture above shows the space where it was firstly presented as a sound installation in stereo format during Athens Science Festival in 2015.

More info about the research of the work can be found in the paper “Sonification of Controlled Quantum Dynamics”, in the Proceedings of International Computer Music Conference - Sound and Music Computing Conference ICMC-SCM2014

Link: alexandros-k.com/projects/quantumMusic001.html

equal = 2014

Type: electroacoustic composition for D-Box, a hackable digital musical instrument

Created by: Alexandros Kontogeorgakopoulos

Funded by: Centre fro Digital Music at Queen Mary University of London for the hackable instrument research project

First performance: Queen Mary University of London, Oct 2014

Equal= is an electroacoustic composition for D-Box, a hackable digital musical instrument. The novel instrument was developed by two researchers at the Centre for Digital Music at Queen Mary University of London. The piece was composed for a live performance related to the *hackable instruments* research project that took place in London. It aims to explore and enhance the subtle idiosyncrasies of the instrument due the characteristics limitation of its sensing circuitry.

Link: alexandros-k.com/projects/equal.html

engraving/hammering/casting 2012

Type: electroacoustic composition for two haptic interfaces

Created by: Alexandros Kontogeorgakopoulos and Edgar Berdahl

First performance: INTIME 2012 Symposium, Coventry University

“We must all return to the crafts,” wrote Walter Gropius in the first manifesto of the Staatliches Bauhaus in 1919. These famous lines emphasised the vital link of art with materials and process techniques. Mind, body, and imagination were indispensable elements. However, in contemporary computer music, this link has become weaker because new technologies have dematerialised the interaction between the performer and the sound object. Engraving – Hammering – Casting is a music piece composed for two haptic digital instruments designed and developed by the composers, who aim to bring materiality back to computer music.

A virtual physical model of vibrating resonators is designed and employed to generate both the sound and the haptic force feedback. Because the overall system, which includes the physical model and the coupled operators to it, is approximately energy conserving, the model simulates what is known as ergotic interaction. It is believed that the presented music composition is the first live composition, in which performers interact with an acoustic physical model that concurrently generates sound and ergotic haptic force feedback.

More info about the research of the work can be found in the paper “Engraving-Hammering-Casting: Exploring the Ergotic Medium for Live Musical Performance”, in the Proceedings of International Computer Music Conference ICMC2012, Ljubljana

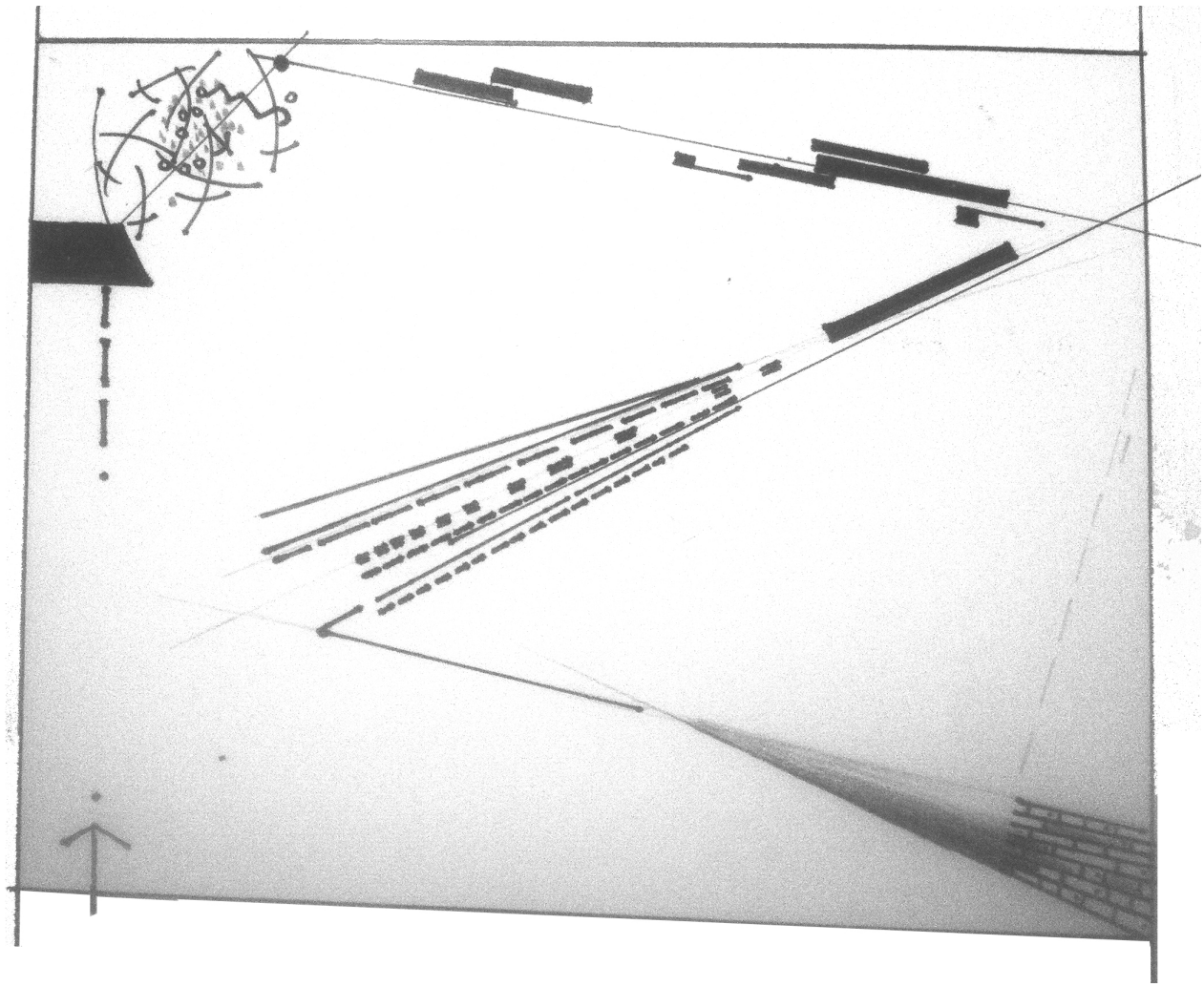
Link: alexandros-k.com/projects/engravingHammeringCasting.html

Points… 2012

Type: electroacoustic composition for acoustic guitar and motion capture system

Created by: Alexandros Kontogeorgakopoulos

Funded by funded by University of Wales Institute Cardiff Research & Enterprise Investment Fund (Multi-coloured Musical Magic Project)



Points is composition for acoustic guitar and live electronics. Motion-tracking technology transforms the space into an interactive sonic environment. A performer improvises with the guitar while walking around the space and the music is altered and played back according to their position in space. The space in this interactive work has only one, non-physical constraint which is marked on a map/stage plan forming the graphic score of the piece (picture above). This indeterminate notion gives the freedom to the performers to interpret freely the composition by having only spatial constraints given in the graphic score.

More info about the aesthetics and the technological aspects of the work can be found in the Journal paper "My Content / My Space / My Music", Organised Sound Journal Vol18 (1)

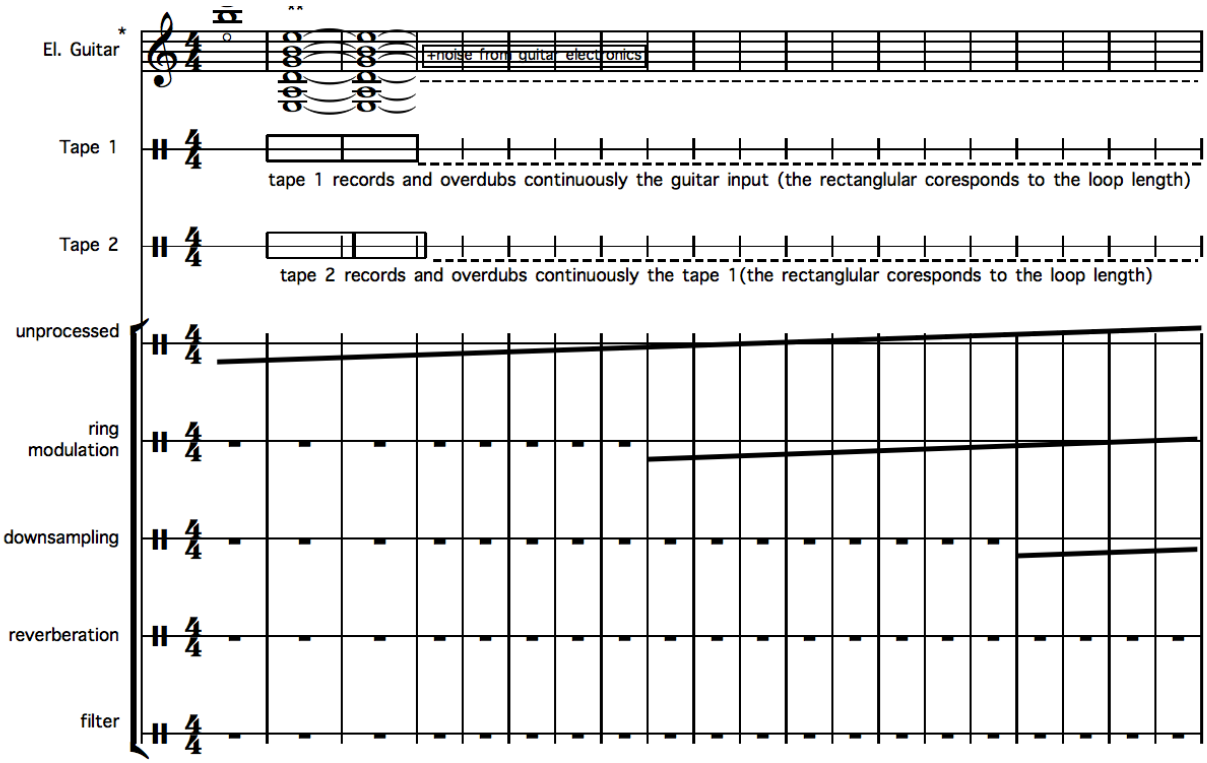
Link: alexandros-k.com/projects/points.html

ebgdae 2010

Type: live electoctroacoustic composition for electric guitar

Created by: Alexandros Kontogeorgakopoulos

First performance: Cardiff School of Art and Design student union, April 2014



ebgdae is a piece composed for electric guitar and sound transformation procedures. The subtle electric guitar textures are performed live while the transformation gestures are precomposed and sequenced using a digital audio workstation. The notated sound treatment parts of the composition for a type of timbral counterpoint.

Link: alexandros-k.com/projects/ebgdae.html

Sound Installations

temno 2019

Type: site-specific outdoors interactive sound installation

Created by: Alexandros Kontogeorgakopoulos

Funded by: the interactional art and hacking camp PIFcamp, August 2019

First exhibition: Soča, Slovenia, August 2019

temno is a site-specific interactive installation conceived and developed for a forest in Soča valley in Slovenia. 'Temno' means 'dark' in Slovenian but also means 'intersect' in Greek (τέμνω). Both terms are related to the nature of the piece.A series of speakers and light sensors are mounted on the trees and create a light-responsive music environment -soundscape. The installation can be experienced in the daytime due to the continuous changes of the light conditions (sun movement, clouds, leaves movement etc) or even more dramatically in the night time where the visitors can interact with the outdoor space with torches. It was developed in Pure Data embedded in the Bela platform.

Link: alexandros-k.com/projects/temno.html

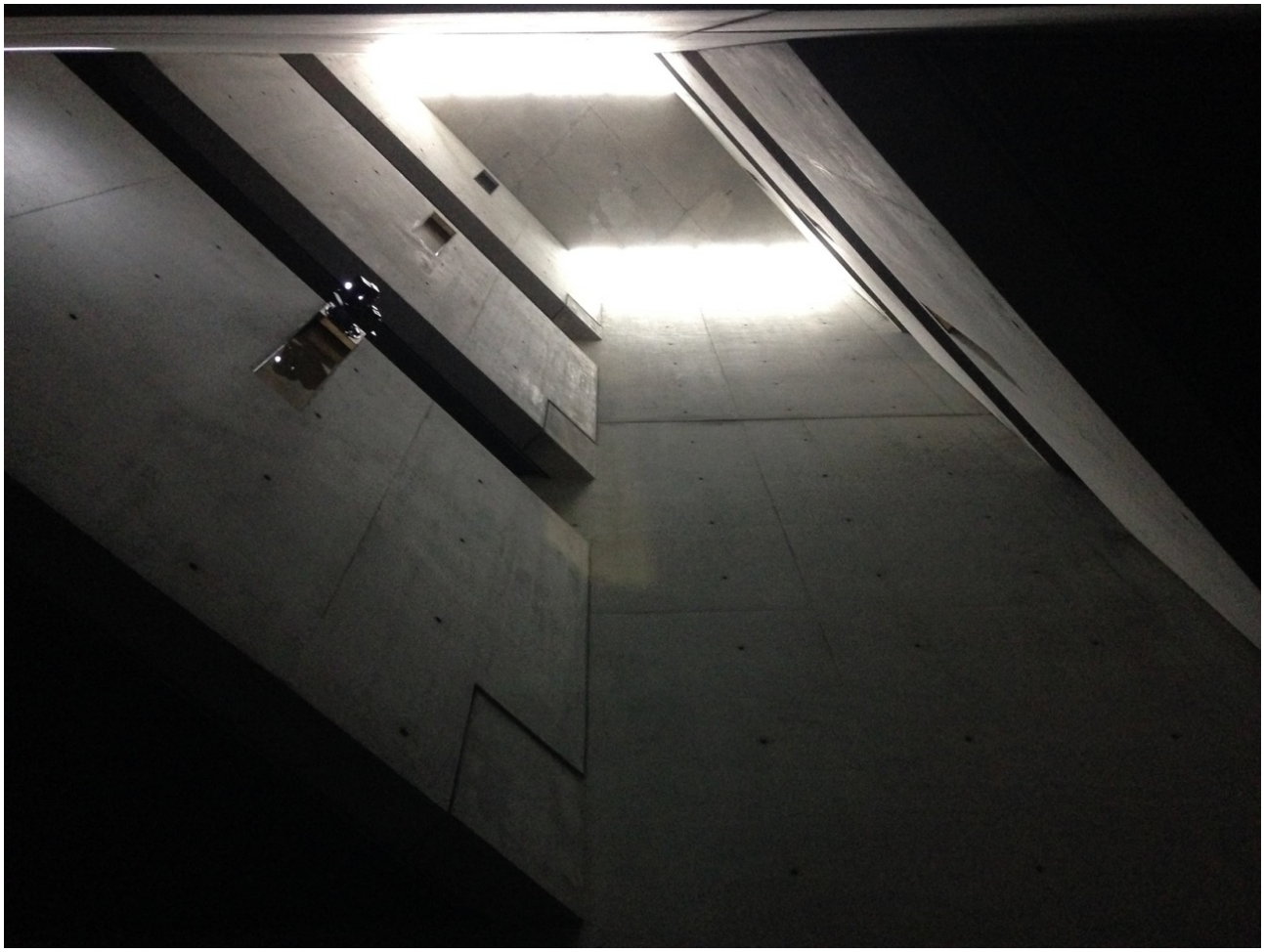
waiting for response 2017

Type: sound installation (contribution to the Resonant Exhibition Jewish Museum, Berlin)

Created by: Odysseas Klissouras, Alexandros Kontogeorgakopoulos

Commissioned / Invited by the Jewish Museum Berlin for Res·o·nant exhibition by Mischa Kubal

First exhibition: Jewish Museum, Berlin, Germany, November 2017 - November 2019



waiting for response is part of the light and sound installation Res·o·nant created by Mischa Kubal for the JewishMuseum Berlin (2017-2019). An important element of the installation is the series of 60-second-long sound clips which were composed especially for the exhibition by more than 50 musicians. Waiting for Response is a sound clip which interacts directly with the acoustics of the space. Eight impulses were designed and placed on a timeline

according to geometrical transformations algorithms designed by the artists.

More info about the aesthetics and the technological aspects of the work can be found in the Journal paper “Temporal-Transformations-and-Spatial-Explorations-in-Sound-Light-Art”, in the Proceedings of International Computer Music Conference ICMC

Link: alexandros-k.com/projects/waitingForResponse.html

cera/mic 2016 [work in progress]

Type: sound installation - sound sculpture

Created by: Odysseas Klissouras, Alexandros Kontogeorgakopoulos, Ingrid Murphy

Funded by: Fab-Cre8, Cardiff School of Art and Design internal grant, Cardiff Metropolitan University

The present project concerns the research in the creation of aerophone musical instruments from ceramic material using contemporary computer-based technologies. Those instruments are designed algorithmically and digitally fabricated in FabLabs, a worldwide network of digital fabrication laboratories. The project is funded by FAB-Cre8, a multi-disciplinary research and enterprise group based in Cardiff School of Art & Design, Cardiff Metropolitan University. Ideas and approaches originating from the computational crafts and design merge with concepts and techniques coming from the fields of sound and music computing and sonic arts. The collection of the fabricated aerophones are triggered by air streams coming out of compressors controlled numerically by microcontrollers. Those instruments-sculptures will be exhibited in gallery spaces when the project finishes.

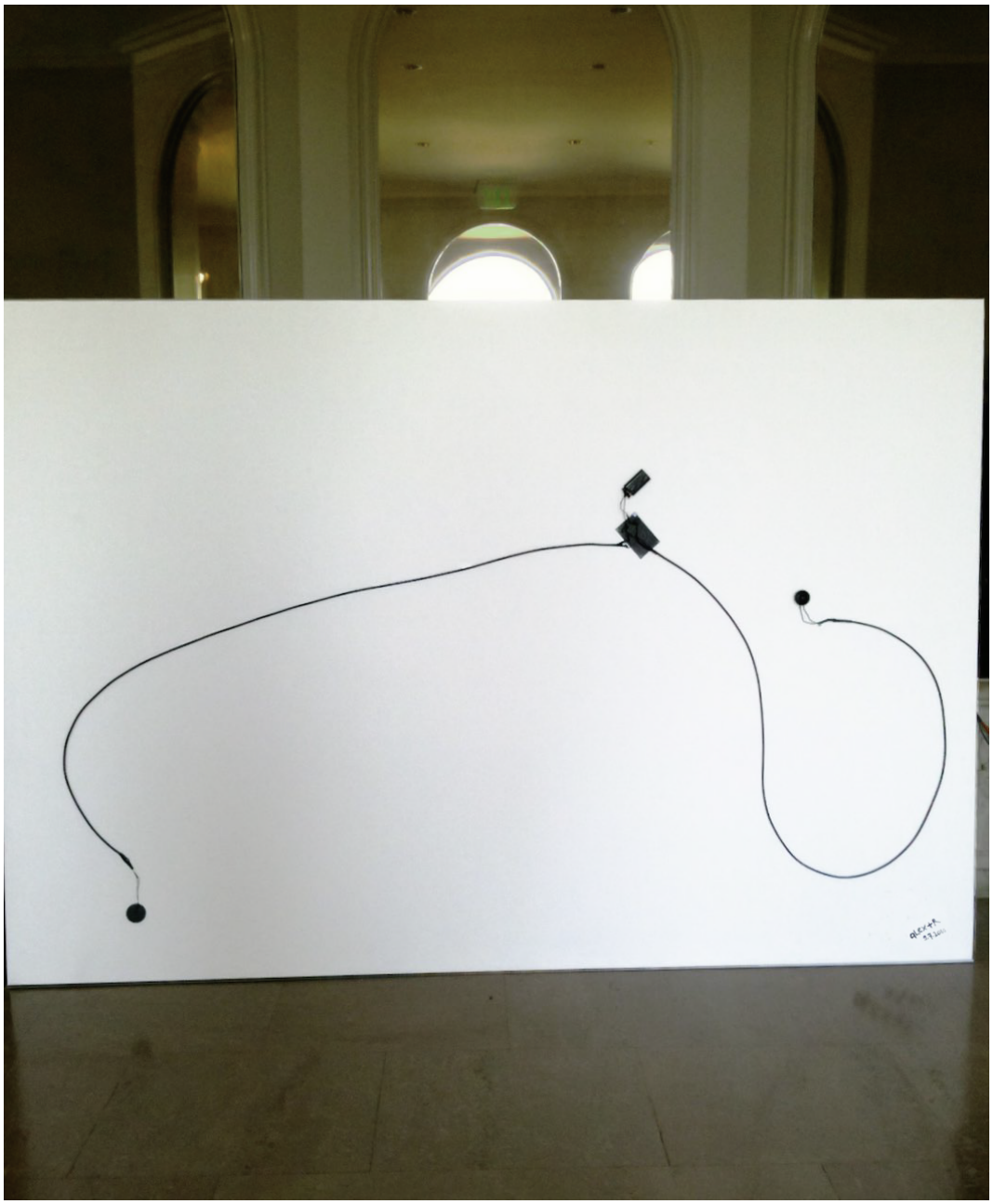
Link: alexandros-k.com/projects/cera-mic.html

please do not touch 2010

Type: interactive sound sculpture - painting

Created by: Alexandros Kontogeorgakopoulos

First exhibition: CCRMA Stanford University, July 2010



please do not touch is is an interactive electronic sound sculpture - painting created at Stanford University in 2010 during my research residency and collaboration with Edgar Berdahl. The visitors interact with the painting by touching it. A simple electronic circuit which intentionally takes the form of an abstract painting is placed on the surface of the canvas and amplifies the visitors hands sounds while they explore its surface.

Link: alexandros-k.com/projects/pleaseDoNotTouch.html

Interactive Sonic Environments

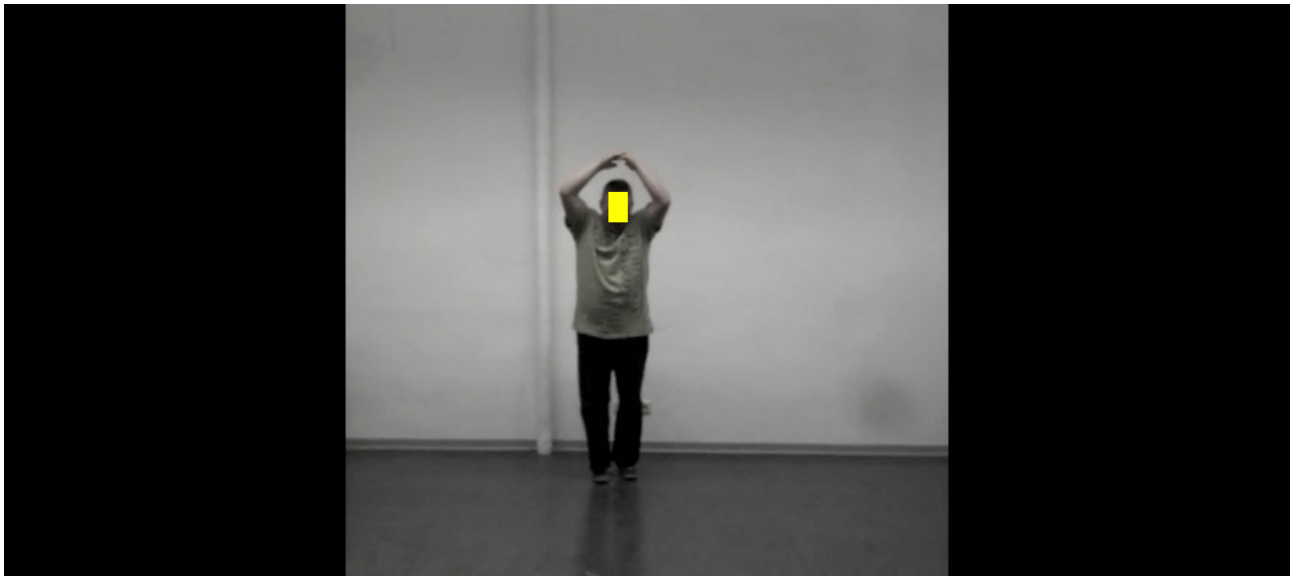
melodic walk 2012

Type: interactive sonic environment - miniature composition using motion capture technologies

Created by: Alexandros Kontogeorgakopoulos

Funded / Commissioned by MotionComposer GmbH

First performance - demonstration : Bauhaus University, Weimar, Germany, April 2012



This interactive composition was partly created at Bauhaus University in Weimar during the Motion-Composer Workshop and Symposium, coordinated by Robert Wechsler in 2012. The MotionComposer project gives people with a wide range of disabilities the opportunity to interact with music through movement. Melodic walk transforms with the help of motion tracking technologies the space into an interactive sonic environment. Miniature interactive compositions were developed which was then performed by 3 disabled participants in the workshop.

More info about the aesthetics and the technological aspects of the work can be found in the Journal paper "My Content / My Space / My Music", Organised Sound Journal Vol18 (1) and in the book chapter "Motion Tracking and Arts for Persons with Motor Disabilities", book chapter in Assistive Technologies, Disability Informatics and Computer Access for Motor Limitations, IGI Global.

Link: alexandros-k.com/projects/melodicWalk.html

snow/space/movement/sound 2011

Type: interactive snow-park using music capture technologies and sensors

Created by: Alexandros Kontogeorgakopoulos (concept, interaction design, sound design, programming), Olivia Kotsifa (snowpark design, co-creation, interaction design), H05 freestyle snowpark company (snowpark design, snowboarders)

Funded by the Strategic Insight Program SIP, Higher Education Funding Council for Wales Innovation and Engagement Fund

First exhibition / demonstration: Méribel snowpark, France, April 2011

The project focus was to create a responsive sonic and music environment for snowboarders which enhances their performance and their overall experience. Interactive technologies (motion capture systems, sensors, microcontrollers and a laptop) were used to generate or alter music material influenced directly by the snowboarders movement in a snowpark in the Alps (Méribel ski resort), co-designed for this purpose by the team.

More info about the aesthetics and the technological aspects of the work can be found in “From Snow to Space to Movement to Sound”, in the Proceedings of Sound and Music Computing Conference SMC11 and in the Journal paper "My Content / My Space / My Music", Organised Sound Journal Vol18 (1).

Link: alexandros-k.com/projects/snowSpaceMovementSound.html

cocktails and sounds 2010

Type: interactive music bar using sensors

Created by: Alexandros Kontogeorgakopoulos

First exhibition / demonstration: CCRMA, Stanford University, July 2010

cocktails and sounds is prototype for an interactive bar. It was created at Stanford University in 2010 during my research residency and collaboration with Edgar Berdahl. The aim was transform the bartender gestures while mixing and serving drinks into music. The shaker was directly mixing the music tracks, the position of the glass on the bar service mat was affecting their frequency content while the weight or pressure on the mat was instantly slowing down the tempo of the music. Therefore the bartended becomes a Dj or even more interestingly co-creates the music experience with the Dj while entertaining the clients with his unexpected performance. It was created during the workshop New Music Controllers , where I was invited to give a lecture in 2010.

Link: alexandros-k.com/projects/cocktailsAndSounds.html

Digital Musical Instruments and Interfaces

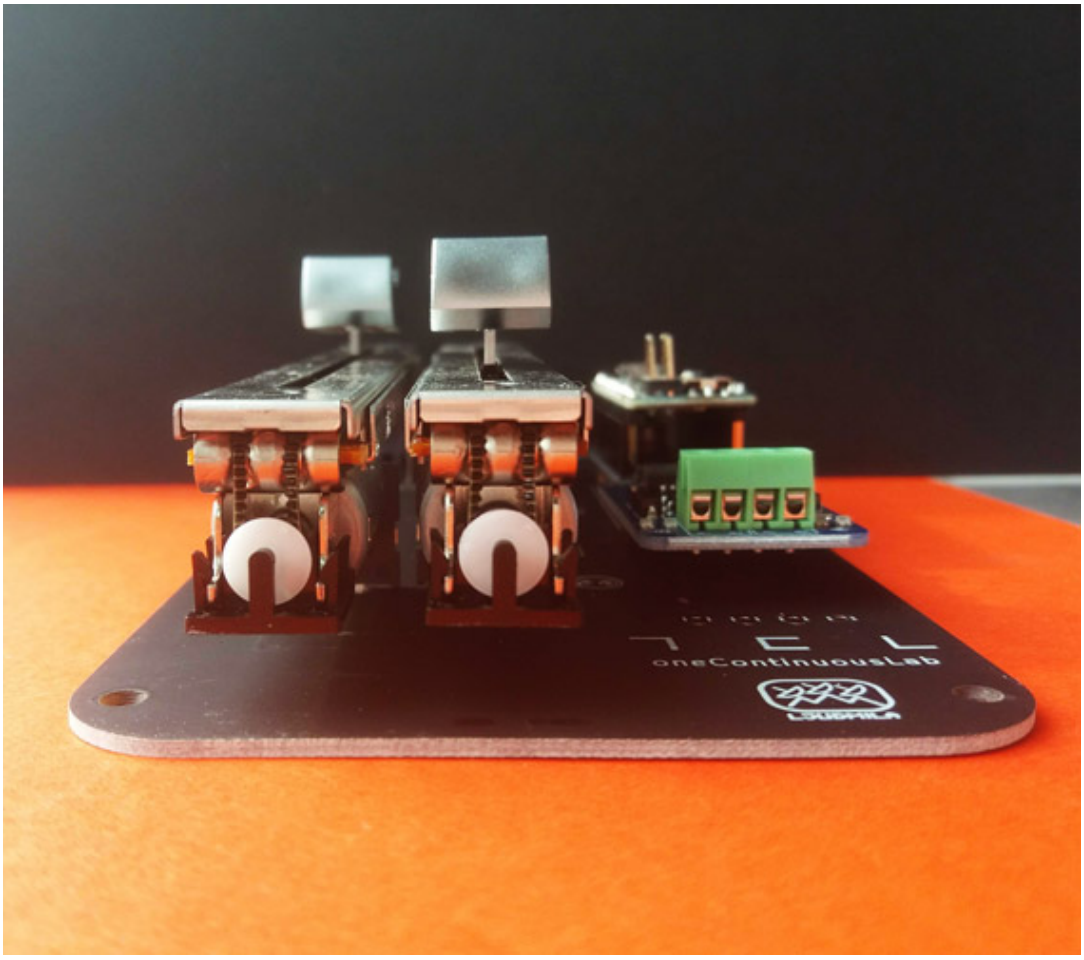
haptic fader 2019

Type: PCB board - haptic fader device

Created by: Alexandros Kontogeorgakopoulos, Stas Vrenko

Funded/Commissioned by Ljudmila Art and ScienceLaboratory (artistic residency)

First exhibition - demonstration: Ljudmila Art and ScienceLaboratory, Ljubljana, Slovenia, February 2019



The current version of the PCB board of the haptic fader device was co-developed Ljudmila Art and ScienceLaboratory in Ljubljana, Slovenia. It was developed for the *Haptic Fader* workshop which took place during my residency in Ljudmila Art and ScienceLaboratory.

Link: alexandros-k.com/projects/hapticFader.html

game | lan instrument 2018 [appears also in the section sound installation]

Type: digitally fabricated digital musical instrument & interactive sound sculpture

Created by: Olivia Kotsifa (conception, 3D design, digital fabrication) , Alexandros Kontogeorgakopoulos (conception, programming, sound and interaction design) with the help of Fab Lab U.de Chile, Fab Lab Lima, and Fab Lab UNAL in Colombia

Funded by: Fab-Cre8, Cardiff School of Art and Design internal grant, Cardiff Metropolitan University

First demonstration: Linux Audio Conference 2019, CCRMA, Stanford University, USA, April 2019

Game | Lan is a digitally fabricated digital musical instrument based on the Bela board, an open-source embedded computing platform. It was co-fabricated in five Fab Labs (an international network of digital fabrication laboratories) in South America. It is an ongoing project focused on the co-design and co-creation of a small orchestra of digitally fabricated digital musical instruments (DMIs). The orchestra, named Game|Lan, is inspired by the traditional Indonesian Gamelan ensembles, their music and philosophy. The instrument apart from its and electroacoustic characteristics is conceived as a sound sculpture which can be exhibited and experienced interactively.

More info about the research of the work can be found in the paper “Game|lan:Co-creating and co-designing an Orchestra of Digital Musical Instruments within the Fab Lab Network”, in the Proceedings of Linux Audio Conference 2019

Link: alexandros-k.com/projects/gameLan.html

haptic fader enclosure 2017

Type: haptic device / interface - design and fabrication

Created by: Odysseas Klissouras, Alexandros Kontogeorgakopoulos

First exhibition - demonstration: Loop 2017 Festival, Berlin, Nov 2017

The *haptic fader enclosure* was designed and fabricated in Berlin especially for a workshop that took place at Ableton's Loop festival 2017. It is a continuation of the FireFader research project focused on the form, scale and the materials of the haptic device. The aim was to create an aesthetically elegant and ergonomic haptic fader which can be used for musical creation but equally for haptic compositions presented as art experiences.

Link: alexandros-k.com/projects/hapticFaderEnclosure.html

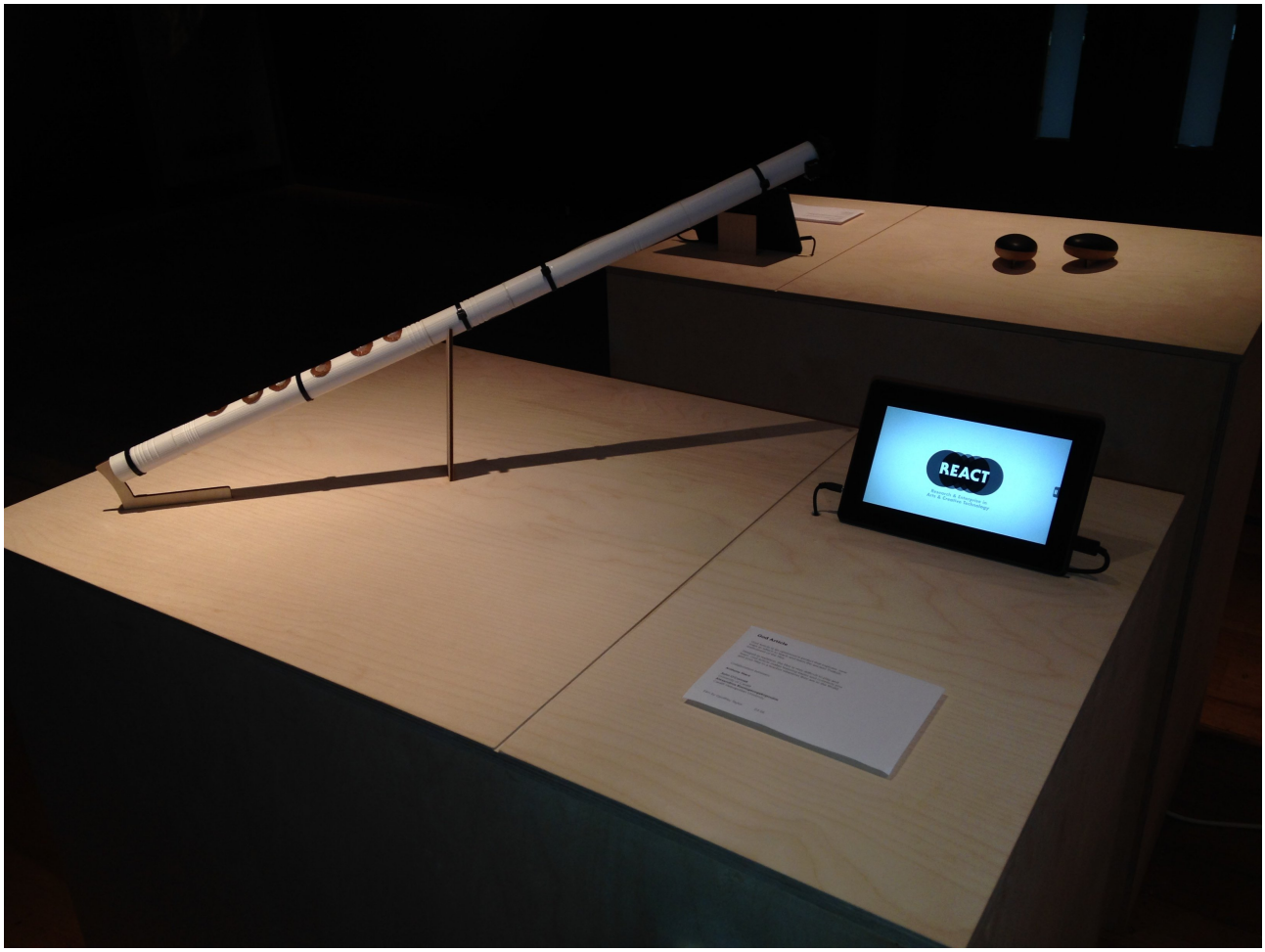
the god article 2014

Type: augmented digitally fabricated musical instrument

Created by: Ant Mace, Alexandros Kontogeorgakopoulos, John O'Connell, Aris Bezas, Stefan Goodchild, Olivia Kotsifa

Funded by: Research And Enterprises in Arts and Creative Technologies - Arts and Humanities Research Council for the God Article project

First exhibition: Christie's Gallery, London Design Festival, London, UK, September 2014



The Turkish Ney is steeped in cultural significance. A traditional wind instrument, it was first played around 4500 years ago but its breath control is difficult and few around the world can teach it. Ethnomusicologist John O'Connell, Sonic Art Scholar Alexandros Kontogeorgakopoulos and User Experience Designer Anthony Mace developed digitally fabricated Ney replicas with electronic sensors and a performance visualisation application to enable learning online. With potential for breath sensing and notation in entertainment and healthcare, this unusual project fuses one of the world's oldest instruments with cutting-edge technology to break new musical ground. Aris Bezas, Stefan Goodchild and Olivia Kotsifa were part of the development team at the later stage of its implementation.

Generic info about the research of the work can be found in the paper "Tangibility, Presence, Materiality, Reality in Artistic Creation with Digital Technology", in the Proceedings of International Computer Music Conference - Sound and Music Computing Conference ICMC-SCM2014

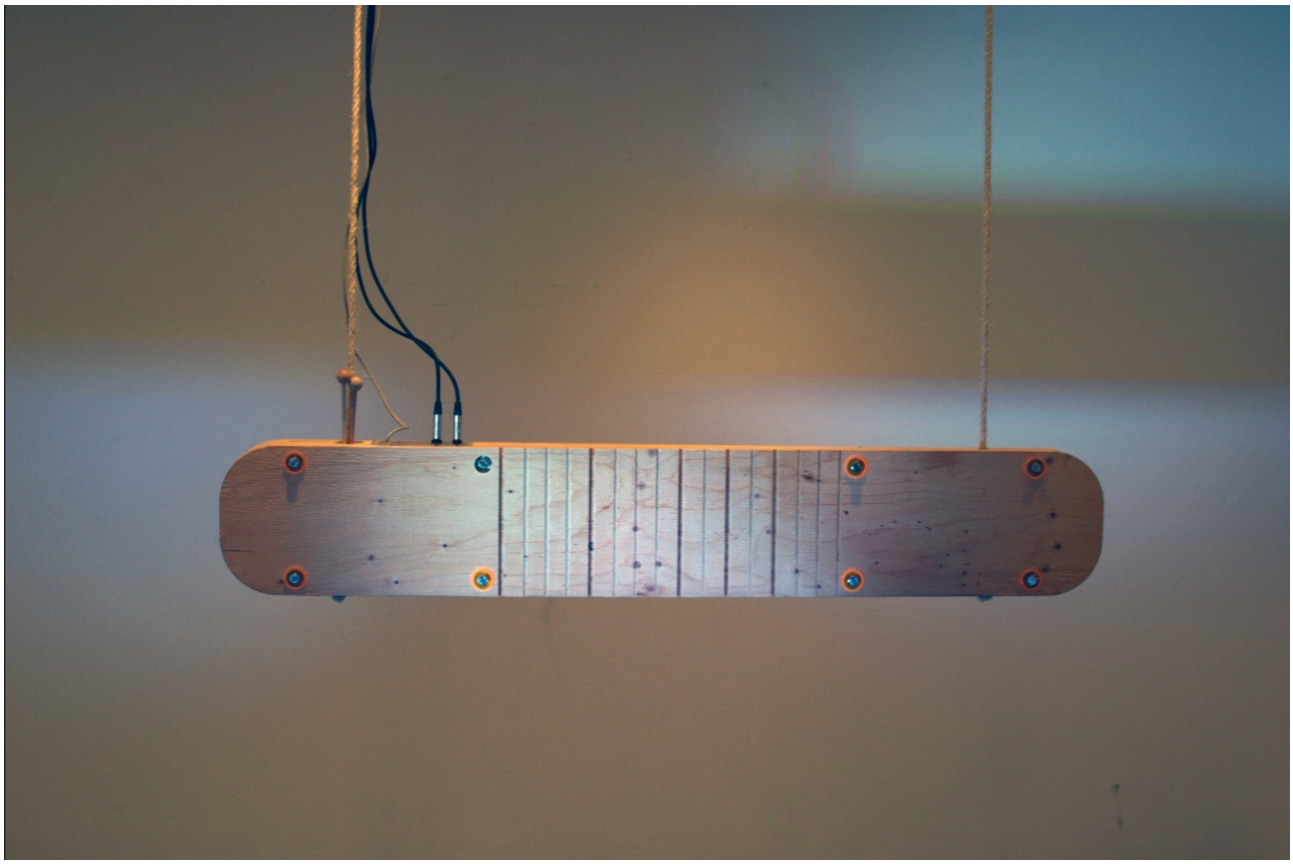
Link: alexandros-k.com/projects/theGodArticle.html

semantron 2014

Type: augmented digitally fabricated musical instrument / interactive sound sculpture

Created by: Alexandros Kontogeorgakopoulos (concept, instrument design, interaction design, programming & electronics, composition), Olivia Kotsifa (instrument design, digital fabrication)

First exhibition - demonstration: Final presentation (online) for the Fab Academy training course, June 2014



Semantron is an object used in monasteries to signal sonically events in the monks life. This project transforms this object into an interactive sound sculpture and an augmented interactive musical instrument. The instrument was digitally designed and created using digital fabrication methods. The sound of the wood is convoluted in real time with the sound of simulated physical objects creating a surreal sonic result merging the real and the virtual worlds. It was created during the myFab Academy training in Cardiff and Barcelona.

Generic info about the research of the work can be found in the paper “Tangibility, Presence, Materiality, Reality in Artistic Creation with Digital Technology”, in the Proceedings of International Computer Music Conference - Sound and Music Computing Conference ICMC-SCM2014

Link: alexandros-k.com/projects/semantron.html

Firefader 2013

Type: haptic device / interface - design and fabrication

Created by: Edgar Berdahl and Alexandros Kontogeorgakopoulos

The FireFader is a simple haptic force-feedback device that is optimised for introducing musicians to haptics. It is based upon a single-degree-of-freedom potentiometer fader coupled to a DC motor, also known as a “motorised fader.” An open-source device driver for the FireFader allows it to be linked to a computer via USB so that the computer can perform the feedback control calculations. For example, the computer can simulate the acoustics of a virtual musical instrument to concurrently synthesise sound and calculate the motor force as a function of the fader position.

More info about the research of the work can be found in the Journal paper “The FireFader: Simple, Open-Source and Reconfigurable Haptics for Musicians”, Computer Music Journal 17(1).

Link: alexandros-k.com/projects/fireFader.html

Music for Films and Plays

Μια Πολυθρόνα στο Δάσος 2012

Type: original composition and sound design

Created by: Alexandros Kontogeorgakopoulos

First projection: European Conference in Play Therapy and Drama Therapy 2012, Athens, Greece, 2012

A short experimental composition and sound design were created for this short film developed within the context of play and drama therapy. It was commissioned by a group of Greek psychologists and presented in various related conferences.

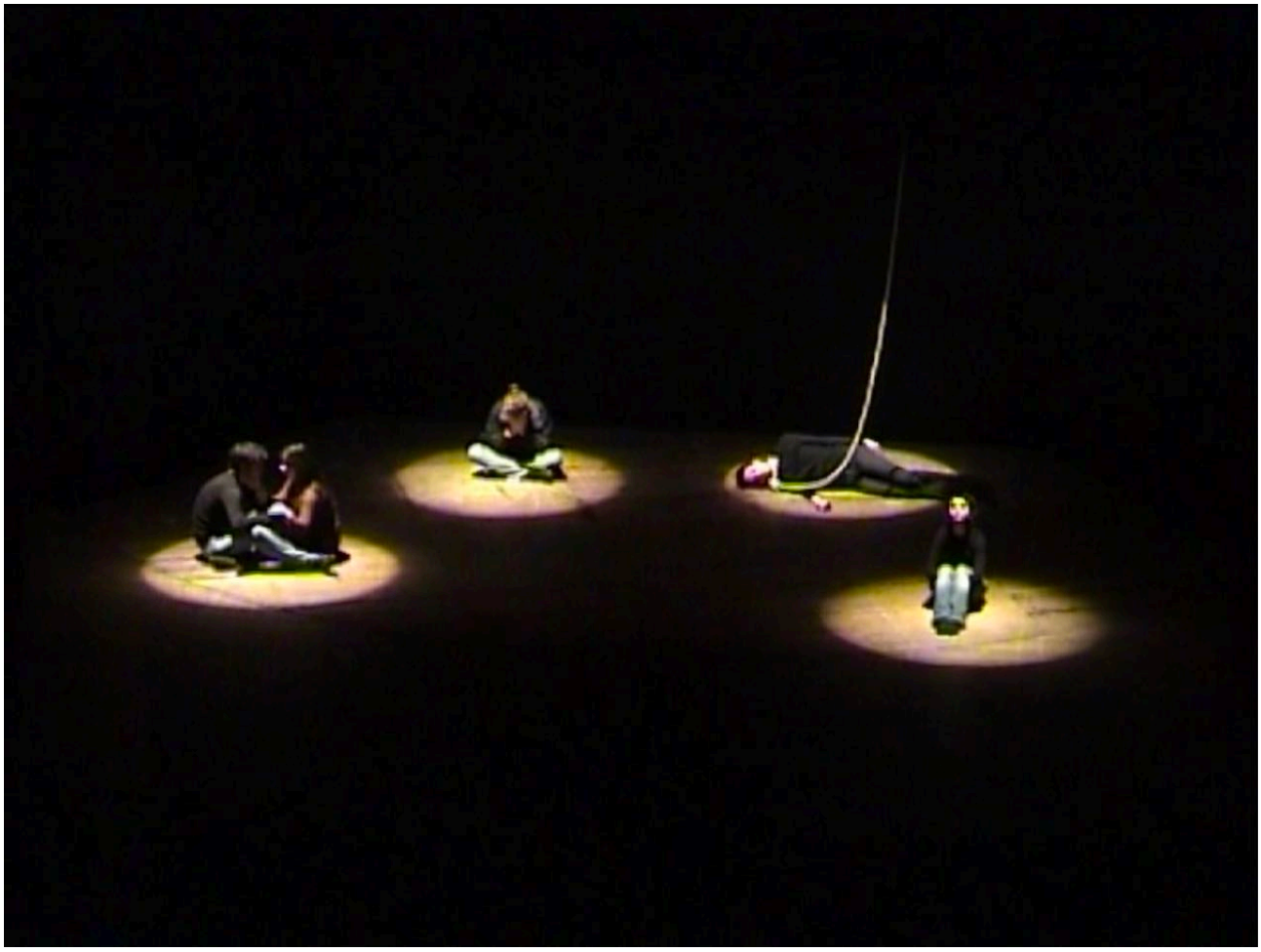
Link: alexandros-k.com/projects/chairInTheForest.html

Σκηνές από Ένα Κόσμο Νεκρό 2006

Type: original compositions

Created by: Testudos Can (Vangelis Tsitsanis, Alexandros Kontogeorgakopoulos, Aristides Limneos)

First performance: 3ο Πανελλήνιο Φεστιβάλ Φοιτητικών Θεατρικών Ομάδων, Athens, Greece



Five indie rock - post rock and tracks where written and performed by the Testudos Can. All the instruments (electric guitar, bass guitar, synth, drums) were played, recorded and produced by the music band. The play opened the 3d (1st official one) National Festival of Greek Universities Theatre Groups under the presence of the greek president Mr Papoulias.

Link: alexandros-k.com/projects/scenesFromADeadWorld.html

Πέτρα σε Σχήμα Καρδιάς 2005

Type: original compositions

Created by: Testudos Can (Vangelis Tsitsanis, Alexandros Kontogeorgakopoulos)

First performance: Πειραματική Σκηνή του Εθνικού Θεάτρου , Athens, Greece, June 2005

Two indie-rock, post-rock compositions where written and recorded for the play. All the instruments (electric guitar, bass guitar, synth, drum machine) were played, recorded and produced by Testudos Can . Unfortunately there is no footage or any visual material from the play.

Link: alexandros-k.com/projects/heartShapedStone.html

Electronica

Time 2019

Type: EP - two compositions for cello, double bass and fixed media “tape”

Created by: Alexandros Kontogeorgakopoulos,

Released: Bandcamp, September 2021

These two compositions for cello, double bass and fixed media “tape” were written in 2018 & 2019 in Tallinn and in Athens respectively. Both of them consist reflections on the silent passage of time.

Link: alexandros-k.com/projects/EP-Time.html

Before 2010-2018

Type: EP - three ambient compositions

Created by: Alexandros Kontogeorgakopoulos,

Released: Bandcamp, September 2021

These three compositions where written and produced among many other unreleased ones over the period 2010-2018. All of them employ a minimalistic language and make use of simple textural elements.

Link: alexandros-k.com/projects/EP-Before.html

Random 2018

Type: EP - three quirky synth-pop compositions written and produced in 2018

Created by: Alexandros Kontogeorgakopoulos,

Released: Bandcamp, September 2021

These three compositions where created and produced in Serifos island in the summer of 2018. They are a great example of the stiwdoEverywhere project and concept; a location independent, digital nomad art & design studio. They are melodic synth-pop tracks with quirky and playful production style.

Link: alexandros-k.com/projects/EP-Random.html

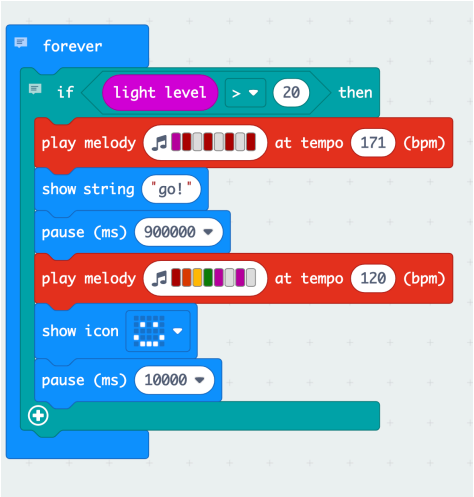
Software / Hardware

microbit interactive educational projects 2021

Type: educational creative projects on programming and digital fabrication

Created by: Alexandros Kontogeorgakopoulos in collaboration with Olivia Kotsifa

Commissioned by: SYN Fab Lab - mobile digital fabrication laboratory



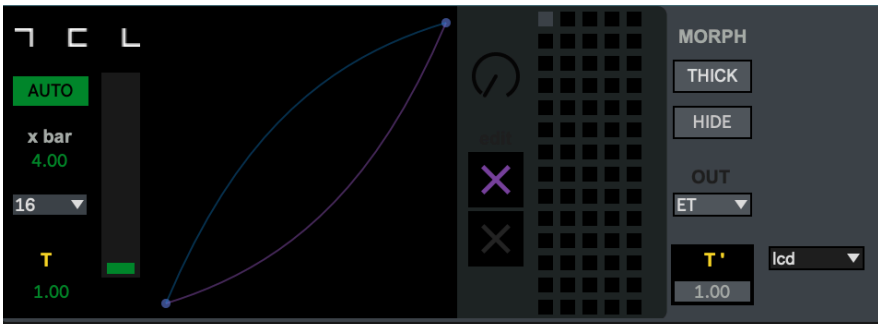
These creative programming projects use sound, lights, images and motion and are targeted to young kids. The aim is to teach them design thinking, hands-on programming , digital fabrications skills and to inform them about the 17 U.N. Sustainable Development Goals.

Link: alexandros-k.com/projects/microbitInteractiveEducationalProjects.html

Elastic Transformations 2021

Type: software application - Max4Live plugin

Created by: Odysseas Klissouras, Alexandros Kontogeorgakopoulos



This application is based on an algorithm for the transformation of musical rhythms through graphical means. The transformation is based on the manipulation of the timeline of the input rhythm, which is treated as geometric form in constant transformation. An older version of it has been used in the sound installation *Waiting for Response*.

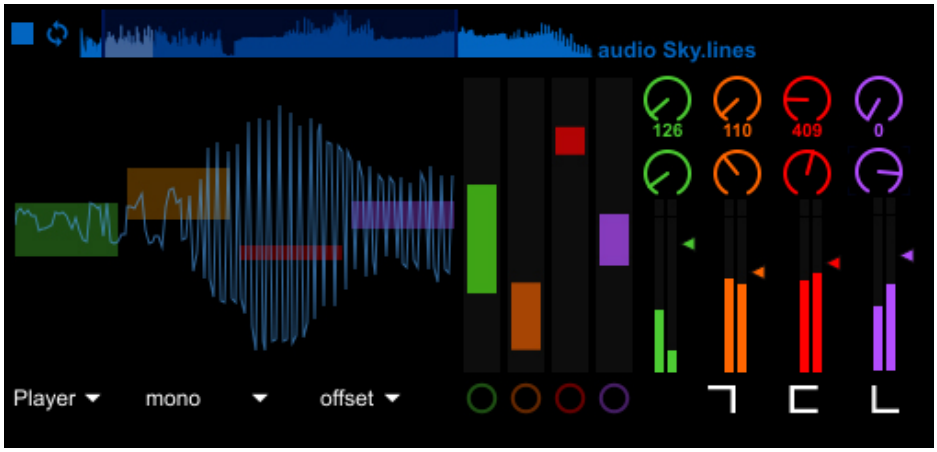
Elements about the technological aspects of the software and its artistic applications can be found in the paper “Temporal-Transformations-and-Spatial-Explorations-in-Sound-Light-Art”, in the Proceedings of International Computer Music Conference ICMC

Link: alexandros-k.com/projects/elasticTransformations.html

Audio Skylines 2017

Type: software application - Max4Live plugin

Created by: Odysseas Klissouras, Alexandros Kontogeorgakopoulos



This application is a digital audio effect based on clipping part of the input audio waveform. It can be used to create saturated textures.

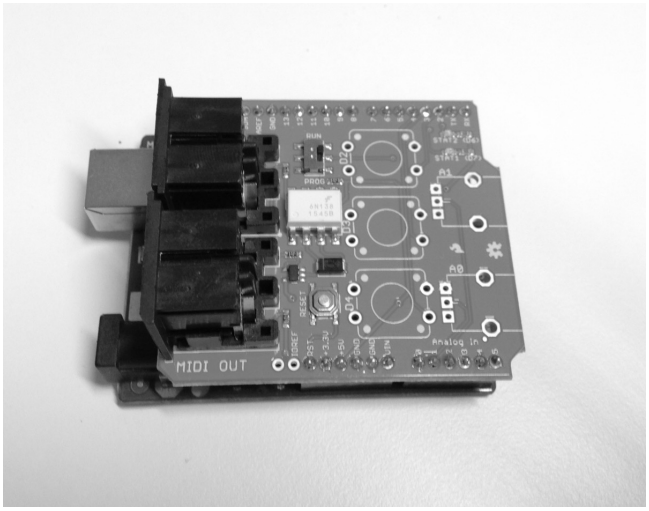
Link: alexandros-k.com/projects/audioSkylines.html

Midi Shield 2017

Type: software - hardware

Created by: Alexandros Kontogeorgakopoulos, Odysseas Klissouras

First performance: Ableton Live 10 Release party, December 2017



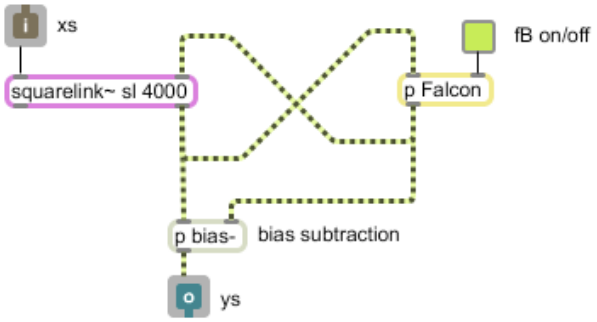
A MIDI processing device in order to control and program the lights of the Berlin band Black Cheetahs. It was programmed in C for the Arduino microcontroller.

Link: alexandros-k.com/projects/midiShield.html

Haptic Digital Audio Effects 2008 -

Type: algorithms based on musical haptics research programmed in Max

Created by: Alexandros Kontogeorgakopoulos



A series for haptic digital audio effect algorithms based on my PhD research. Most of the algorithms are unpublished for the moment since a patent application is considered. They consist a novel category of digital audio effects based on multisensory simulation (haptics, visuals, sound) of physical models.

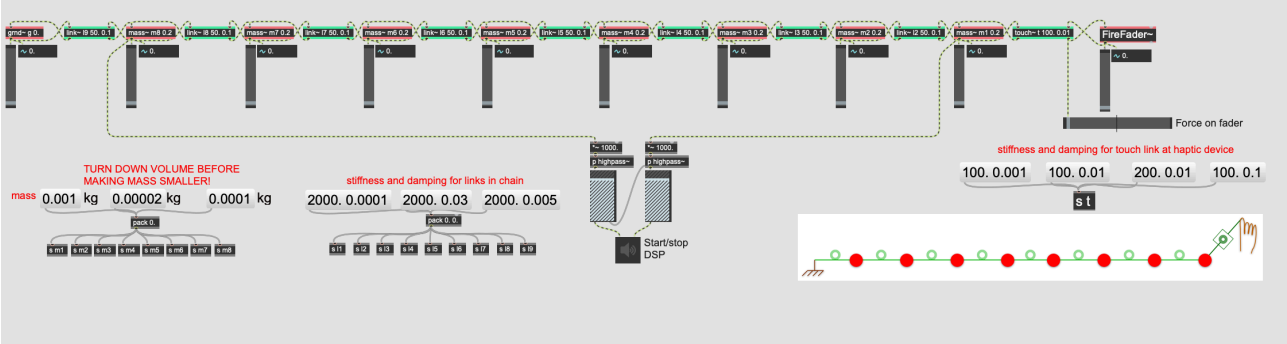
More info about the research of the work can be found in the book chapter “Low Cost Force-Feedback Interaction with Haptic Digital Audio Effects” in E. Efthimiou, G. Kouroupetroglou and S. Fotinea (Eds) “Gesture and Sign Language in Human-Computer Interaction and Embodied Communication”.

Link: alexandros-k.com/projects/hapticDigitalAudioEffects.html

OSHA open source haptics for artists 2013 -

Type: open-source software and hardware haptic technology

Created by: Edgar Berdahl, Alexandros Kontogeorgakopoulos



OSHA is primarily an open-source framework for developing haptic interaction in music and in the audiovisual arts. The git repository provides a venue for users to share open-source software and hardware haptic technology with one another. It has been created via a collaboration between the Technical University of Berlin, Cardiff School of Art & Design, and Stanford University. The current maintainers are Edgar Berdahl (main contributor) and Alexandros Kontogeorgakopoulos.

More info about the research of the work can be found in the paper "HSP v2: Haptic Signal Processing with Extensions for Physical Modeling", 5th International Workshop on Haptic and Audio Interaction Design HAID.

Link: alexandros-k.com/projects/OSHA.html