Beques per a la recerca i la creació en els àmbits de les arts visuals, dels nous sectors creatius, de les arts escèniques, de la música, i del pensament

Convoc. 2017 OSIC / Dep. de Cultura de la Generalitat de Catalunya

Paisatges Aurals: Propioception Rhythm Box

#Paisatge Aural #Percepció auditiva #So generador espai #Percepció Sensorial Cos versus espai #Sensor infraroig #Arduino Mega #Tinker #PureData #Altaveus #So #seqüencies #Ritmes #Delay #Reverb #Ressonàncies #Programació Creativa Digital #Sonic Interaction Design

Per aquesta recerca s'han consultat les seguents pagines i links:

Sculpting sound

https://www.youtube.com/watch?v=TnsRfOyIiZ4

Model of sculpting the sound: Electroacoustic instrument with piezoelectric connections.
UR 44 sound card

https://www.youtube.com/watch?v=uS9hneOnWJY

Sculpting sound is an interactive sound installation, presented as a sound floor. In this project different technologies have been applied such as the use of piezoelectric sensors, effect pedals and an external audio card to capture the mechanical signal of the viewer and convert it into electrical energy-sound. Every movement exerted on the installation material will be amplified, translated and modified into abstract sounds close to the noise.

How A Blind Man Sees With Sound

https://www.youtube.com/watch?v=PLPEcu6523Q

Daniel Kish uses flash sonar to “see” the world around him.

FlashSonar: Understanding and Applying Sonar Imaging to Mobility

https://nfb.org/images/nfb/publications/fr/fr30/1/fr300107.htm

https://www.ted.com/talks/daniel_kish_how_i_use_sonar_to_navigate_the_world#t-733440

Sight Through Sound: A Navigational Device for the Blind

https://news.afhu.org/afhuvideos/sight-through-sound-a-navigational-device-for-the-blind

The Society of Visually Impaired Sound Artists Manifesto

https://www.youtube.com/watch?v=CR-kzA4bWZU

Our mission is to promote sound as art two the blind community. Through our efforts we will spawn new artists and composers and introduce the sonic arts to blind and visually impaired people. We find it curious that the number of sighted sound artists outweighs that of the blind ones dramatically. We want to change that. Here are our demands:- Inclusion of sound in art education for the blind, - Museums with audio tours and touch galleries provide more funding for sound based works,- Grant funding for artist development, recording projects, performance production, and touring support,- Provide blind artists with accessible audio and recording technology.

Chamber Music: A sound installation by Martin Andersson

https://www.youtube.com/watch?v=nEZBahpaU2s

This sound installation shows the artist standing in front of the wall of the exhibition space creating sounds on this exact wall. Banging and scratching with his hands, he makes the wall emitting sounds which can be layered and will interfere with each other, thus creating a complex musical piece.

Cat's Cradle _ Interactive Sound Installation

https://www.youtube.com/watch?v=iqVTpXTAfJ8

Interactive sound sculpture, takes form of a medium size 'on table' game board and audience are encouraged to play with the rubber bands. Poles on the table are holding rubber bands. A number of poles are equipped with pressure sensors, so that when rubber bands are pulled by the guest, pressure sensors react by sending data to a microcontroller (arduino) that is connected to the computer. From there data collected from the sensors is processed and software (max msp) generates sound resultingly.

soundCanvas - an interactive sound installation

https://www.youtube.com/watch?v=irJFjwJw9xg

The plant's "state" is represented through sound, primarily frequency. The plant responds to changes in its environment such as humidity, temperature, light, and touch. The micro-voltage fluctuations of the plant are detected by Ag/AgCl electrodes. The voltage is amplified and sent into an Arduino to be digitized. The numeric values are sent to oscillators, resulting in the soundscape.

Haptic Sound Machine

https://www.youtube.com/watch?v=1G3YBgucKts&list=PLvLwLmpj5BGwmE4XbqInAw2XIuezPRuXz&index=2

HFU Fakultät Digitale Medien
Master Design Interaktiver Medien M.A. und Medieninformatik M.Sc.
Seminar Interactive Audio Design SoSe 2016, using Max, Processing and Kinect

Sounding Architecture

https://www.youtube.com/watch?v=dXBVUIywfeg

SITISIZER – interactive sound installation

SITISIZER transmits the inherent natural sounds and properties of a pneumatic plastic seat, which is produced by the Vienna based studio Experimonde of architect Michael Schultes.

Amongst other things his team does research in how to use plastic diaphragms in the field between architecture and art, for example to cancel noise by using them as building covers. We took this approach by transmitting the sounds of persons moving in the chair and interacting with the material into a 360° audio panorama – with the aim to transform unpleasant sounds which happen when plastics and skin get in touch

Haptic Sound Distortion #MusicMonday #arduino

https://blog.adafruit.com/2014/03/03/haptic-sound-distortion-musicmonday-arduino/

http://www.rachelciavarella.com/haptic-sound/

To interact, a user first selects a sound using one of the buttons. As the sound plays, it can be distorted by turning any of the three haptic feedback distortion knobs. Each knob produces a different type of distortion. The unique texture on each knobs looks and feels like the distortion sounds. Vibration motors nested inside the knobs are programed to provide a specific vibration pattern that maps a texture onto the knobs that also feels like the distortion sounds. I was able to make this all happen using a midi controller, computer sound mixing program, an Arduino, processing, and some simple circuitry.

New Haptic Instrument Uses Touch And Sound To Create Intense Graphics

http://maistudio.wikidot.com/yemas

Yemas is a musical instrument created for the interpretation of music by computer. It has been developed with the valuable help of Jose Moncada, Daniela Echeverry and Mauricio Issa. The original idea starts from the need to have a haptic interface with as many degrees of freedom as possible to expand the musical interpretation. The audio engine is built in PureData and the analysis engine in Open Frameworks. This instrument is inspired by Jaime Oliver's Sleek Drum.

Silent Construction 1 - Jaime Oliver

https://www.youtube.com/watch?v=LTytHbZG0p8

http://www.jaimeoliver.pe/instrumentos/silent-drum

The Silent Drum is a drum with an elastic membrane that adapts to the shape of the hand that presses it. This membrane is captured by a high resolution video camera, whose image is analyzed by the computer. The data obtained from this analysis is used to control processes of sound creation and transformation. The instrument is open source and is gradually being replicated elsewhere. http://www.jaimeoliver.pe/archives/518

Tactus - Score Study II

https://www.youtube.com/watch?v=Vgh2n_PvWcw

http://www.jamesbulley.com/#/tactus/

Tactus is an ongoing project that explores the generation of music in real-time, through the creation of tactile, Braille notated sound scores. By interscting with the score, the user can dynamically recombine rhythmic, melòdic and harmonis musical material, creating their own non-linear composition. Underneath the tactile score sixteen piezoelèctric sensors relay touch signals from the user.

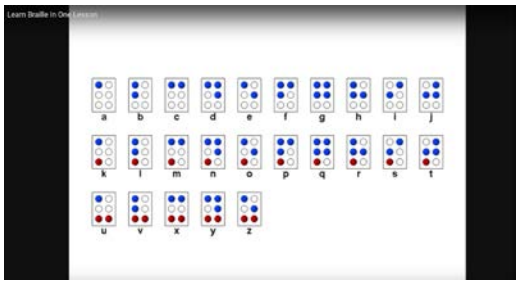
10th Kaunas Biennial NETWORKED / James Bulley TACTUS

http://www.bienale.lt/2015/video-galerija/

https://creators.vice.com/en_us/article/xyvpkd/iscore-study-iii-is-a-generative-braille-notated-sound-artwork-artist-qa

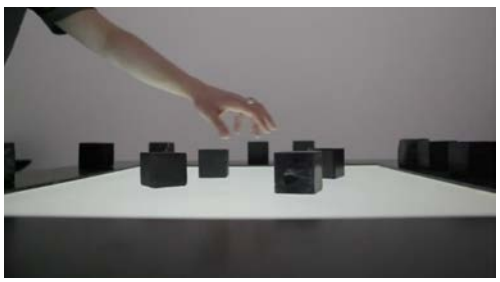
Blind person's experience with the printed score.

Learn Braille In One Lesson



https://www.youtube.com/watch?v=sqQ3gdE7ks0

Sonomateria



https://vimeo.com/14960718

http://www.hz-journal.org/n16/lee.html

SONOMATERIA is a multi-user sound sculpture, installation, tangible sound interface and intersensory composition. The work aims to explore the sonic manifestation of touch, via experimenting with the mutual reinforcing effect that the manipulation of tactile and auditory

perceptions can have on each other in the context of art and design. SONOMATERIA takes the form of a tangible interface that allows spectators to manipulate digital sound via tactile interaction with a selection of physical objects made of 16 distinct materials: Polystyrene, Coal, Cork, Wood, Industrial Rubber, Clay, Sponge, Stone (Granite), Coal, Wax, Synthetic Leather, Vinyl, Iron, Gaffer tape, and Plasticine.

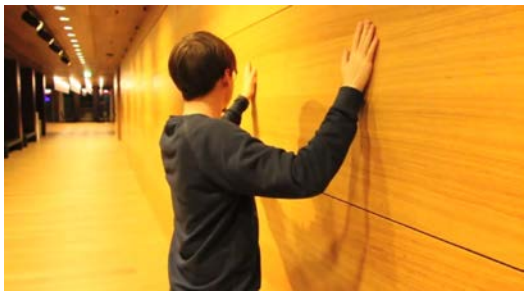
What if scores could be touched and felt

http://cdm.link/2017/02/touch-feel-score/

http://ultranoise.es/blog/?p=1004

Tangible Score: Using sound as a continuous input signal, both synthesis and control are available simultaneously through direct manipulation on the engraved patterns of the physical score. Every interface is conceived from a different graphical score that still represents a musical idea but it has been also specially designed for providing a diverse palette of acoustic signals when touched. But more important, the tactile scores define and propose specific gestural behaviors due to the different affordances and constraints of the object in front. Sound is generated through a polyphonic concatenative synthesis driven by a real-time analysis and classification of input signal spectra. Each of the scores is loaded with a specific sound corpus that defines its sonic identity. Thus, “Tangible Score” provides an implicit visual and haptic feedback in addition to its sonic core functionality, making it intuitive and learnable but as well suitable as an interface for musical improvisation and sonic exploration.

Schallmauer

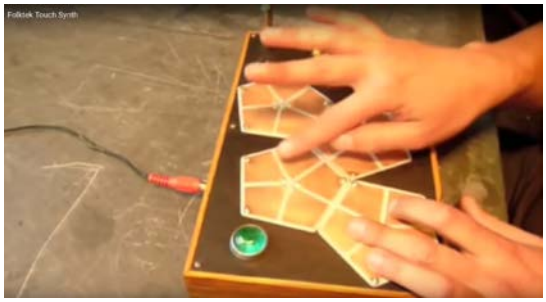


http://ultranoise.es/blog/?p=981

A long corridor at the top floor of the Klangfoyer at the Musiktheater Linz features a wall comprised of several wooden panels. The individual elements of this wood casing transform into the Schallmauer, a compositional musical instrument that opens a window to the

resonance of the city. Behind each panel of a 25m long wooden wall a total of 56 contact speakers have been mounted, transmitting the sound directly through the solid medium, which therefore can primarily perceived in bodily contact with wall. Especially the low frequencies under 50Hz transform the wood into a both tactile and visually perceivable resonant state. Each of the 28 interactive wooden panel is equipped with six capacitive contact sensors, which allows to control the sound in a total of 168 segments through the touch of hands and body. 14 motion sensors that are distributed throughout the length of the corridor allow to detect the presence and motion of the visitors, in order to unconsciously guide them into a dialogue with this interactive musical instrument. The installation has been implemented with a distributed Debian Linux system running on 14 Raspberry Pi computers, which are providing 28 independent audio channels controlled by one additional Raspberry Pi. The entire composition has been programmed in Pure Data and additional custom software for the interactive hardware interfaces.

Folktek Touch Synth



https://www.youtube.com/watch?v=D2h2UDlMyVY

Folktek Touch Synth Based on excessive feedback and delay.

Aether: Touch-based synthesis by Arius Blaze

https://www.youtube.com/watch?v=szyD7fXQiHg

http://folktek.com/instruments/symbiotic/aether

Aether is a touch based work . It features 10x2 oscillators and an equal polyphony, is capable of connecting with anything that accepts control voltage and also has a set of touch "keys" that transmit CV. Two touch panels contain 10 responsive "keys" each that represent the primary low oscillators and higher decay oscillators. When the global pitch is dropped, the low oscillators go into a synchronized LFO mode where each key represents a different time signature. The decay section is made to have a natural decay where attack and sustain are

controlled by touch. Another panel integrates a more subtle set of oscillators that replicate the decay panel and are made to influence the other oscillators. Finally, the amp section alters the sound of the low oscillators and provides everything from deep, filtering swells to subtle pitch change.

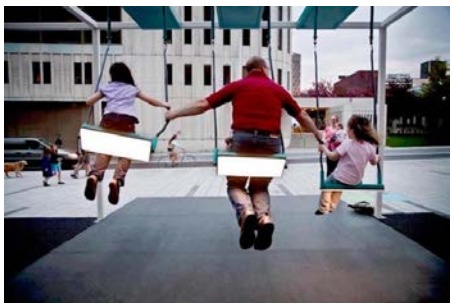
Analog Frequencies

http://www.magdimostafa.com/Analog-Frequencies.aspx

https://www.youtube.com/watch?v=k2JEwQJVBpU

Sound Cells : Interactive sound Installation .A dark, laboratory-like room housed a cellular structure covered with vibrating, shuddering, and twitching hand-made electromagnetic kits, which interacted with several other elements to emit “square” sound waves of various tones and values through different-sized speakers.

Make Sound and Light Art on Interactive Swings



https://creators.vice.com/en_us/article/wnp9vq/interactive-swings-make-sound-light-art

People on swings can get a wide variety of sounds depending on their swing’s positioning. When synchronized, new melodies emerge. When swingers are out of sync, things get a bit more noisy and experimental.

FELT SOUND

http://www.magdalenakovarik.com/feltsound/

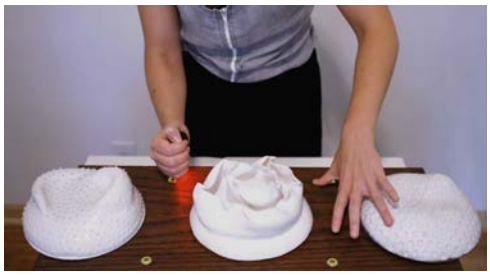
FELT SOUND is an interactive sound installation, a game, a musical instrument. It is an experience for the various senses. While you place, stack, and knock down the blocks you can produce countless combinations of sounds. All of that happens on a specifically developed felt mat with several internally embedded sensors. Each sensor generates a different set of sound scales. As you place more blocks on the sensor, more sound will be added in a harmonious way. In addition, the speed of the tone sequences increases by adding blocs. The felt mat is designed to turn this banal everyday object into an unexpected sound playground for those who participate. FELT SOUND can be both a platform to experience sound, tone sequences and melodies for children and musical education, as well as a tool to compose and generate music. Its highly tactile physical interface allows for an intuitive approach to music without barriers.

IMPULSE

http://lateraloffice.com/IMPULSE-2015-16

The Place des Festival in Quartier des Spectacle is transformed into a space of urban play through a series of thirty interactive acoustic illuminated see-saws that respond and transform when in motion. The seesaws, of 2 lengths, form units of light and sound that can be activated and played by the public to create a temporal, ever-changing event. Impulse embodies ideas of serialism, repetition, and variation to produce zones of intensity and calm within a large public space. When not in use, the see-saws stabilize to the horizontal and remain at a lower glowing level. When activated by users and inclined, the see-saws, wired to LED lights and a speaker, will augment in light intensification and emit a sound sequence. The 30 see-saws shift along the length of the Place des Festival in plan, while their vertical motion creates a dynamic light and sound wave. *Impulse* is an ever-changing urban instrument.

LOBATUS



http://half-half.es/lobatus/

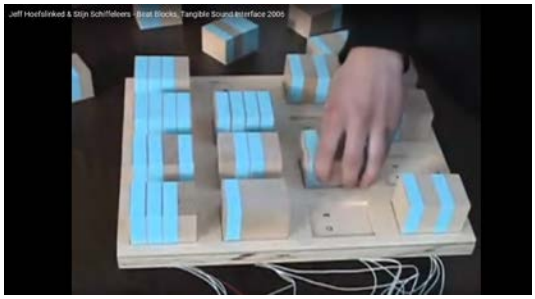
The gestural interface for Lobatus is constructed from ceramic pieces and wood. This project combines haptic feedback gestures with non-haptic ones. The motivation behind the three ceramic controllers in Lobatus was to reimagine the small knobs used in traditional commercial controllers and the gestural limitations they impose on the performer. Two photoresistors embedded in the wood also act as optical theremins, translating motion or light into varying patterns of sound.

Polvo

http://half-half.es/polvo/

Gestural interface made from engraved acrylic discs, wood, and light sensors. Using the structure and hardware that I built for Lobatus, I created a new variation to accommodate a different gestural vocabulary. My interaction with Polvo, with its three circular discs, borrows from the body language of a DJ scratching or spinning to navigate the timeline of a record. Here, I apply similar gestures to extract snippets of field recordings or compositions using a granulation synthesis process.

Beat Blocks, Tangible Sound Interface



https://www.youtube.com/watch?v=KoI8WH3F_Yk

Beat Blocks is a tangible interface for a rhythm sequencer. The user is able to create and manipulate a 4-track drum loop by physically re-arranging wooden blocks within a 4x4 grid. What this enables is anyone with little or even no musical background to create and take command of a rhythmic composition. No time is needed to read a manual or learn a complicated interface. The sequencer operates at a 1/16 note resolution. Each block has a pattern of vertical stripes that represents a sequence of drum hits for a 1/4 measure time duration. The sequence plays in a continuous loop and is updated instantly as blocks are added and re-arranged so that the composition is constantly changing as people are interacting with the system. Two or more Beat Block units can be synchronized to add more percussive elements to the composition. Two Beat Blocks units equals 8 drum tracks and enables a playful and collaborative approach to music making. For a club-type situation this will surely provide hours of entertainment as club-goers have the opportunity to be performers.

Piano Staircase

http://www.thefuntheory.com/piano-staircase

”Take the stairs instead of the escalator or elevator and feel better” is something we often hear or read in the Sunday papers. Few people actually follow that advice. Can we get more people to take the stairs over the escalator by making it fun to do?

The Sound of High Heels

https://www.youtube.com/watch?v=2I74FFVzha0

Basement Walk (on Stone), external microphone.

Walking on concrete sound effect

https://www.youtube.com/watch?v=EdFzvf2hMT8

Din blinde passager

http://olafureliasson.net/archive/artwork/WEK100196/din-blinde-passager#slideshow

Olafur Eliasson. Din blinde passager, ARKEN Museum of Modern Art, Copenhagen, 2010 is a 90-metre-long tunnel installation is a densely fogged environment, which provides visibility at just 1.5 meters. This calculated circumstance forces visitors to use senses other than sight to navigate and orient themselves in relation to their surroundings.

Sonic Acts Academy 2018

http://sonicacts.com/sonic-acts-academy-2018

Sonic Acts Academy is a new platform that aims to grow, expand, sustain and disseminate stimulating discourse about artistic research. Following its inception in 2016, the second edition of Sonic Acts Academy will take place from 22-25 February 2018 at various locations in Amsterdam. The Academy is initiated by Sonic Acts, which also organises the internationally renowned Sonic Acts Festival focusing on developments at the intersection of art, science and technology.

Joris Strijbos: IsoScope

http://www.sonicacts.com/2016/opening-sonic-acts-at-stedelijk/joris-strijbos-1

IsoScope is a kinetic audiovisual outdoor installation, a sensorial experience in which the audience wanders through rotating lights and an ever-changing sonic cloud. This new work by Dutch artist Joris Strijbos consists of multiple robotic wind objects interacting with each other and with their surroundings. Strijbos aimed at creating a human-constructed phenomenon, an abstract entity which, like most natural phenomena, can only be experienced in certain weather conditions.

Echoes of Footprints

http://louilouilouiloui.tumblr.com/post/132743734832/echoes-of-footprints-sound-and-ultrasonic-sensors

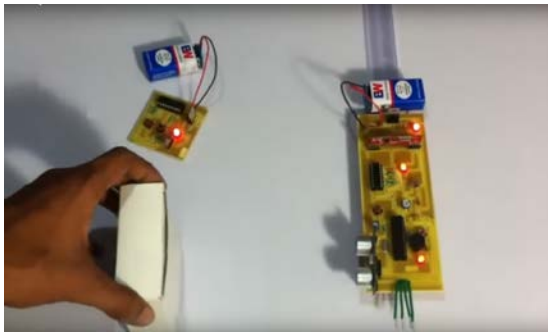
Sound and ultrasonic sensors. Echoes of Footprints is an interactive sonic installation that uses echolocation to manipulate whale and dolphin sounds. A series of ultrasonic sensors are installed in a gallery space and sound is triggered and altered by the audience's movement in the space.

The Revolutionary UltraCane

https://www.youtube.com/watch?v=NjEghGEExEQ

The Ultra Cane gives mobility assistance to blind and partially-sighted people by emitting ultrasonic waves, just like the echolocation system used by bats and dolphins. In fact, it was from the knowledge and understanding of bats, that the UltraCane was first developed. The bat emits an ultrasonic pulse and times how long it takes for the echo to return. By its implicit knowledge of the velocity of sound in air, the bat is able to calculate the distance to the object. This knowledge has been transferred to the Ultra Cane which works in a similar way.

Ultrasonic Blind Walking Stick



http://nevonprojects.com/ultrasonic-blind-walking-stick-project/

The blind stick is integrated with ultrasonic sensor along with light and water sensing. Our proposed project first uses ultrasonic sensors to detect obstacles ahead using ultrasonic waves. On sensing obstacles the sensor passes this data to the microcontroller. The microcontroller then processes this data and calculates if the obstacle is close enough. If the obstacle is not that close the circuit does nothing. If the obstacle is close the microcontroller sends a signal to sound a buzzer. It also detects and sounds a different buzzer if it detects water and alerts the blind. One more feature is that it allows the blind to detect if there is light or darkness in the room. The system has one more advanced feature integrated to help the blind find their stick if they forget where they kept it.

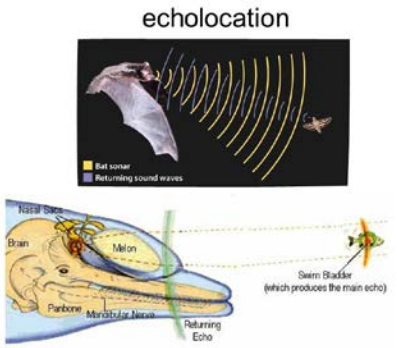
How sound Works

Chapter 10 – Part I - Sound

Lesson 1: The Nature of a Sound Wave
Sound is a Mechanical Wave
Sound is a Longitudinal Wave
Sound is a Pressure Wave
Lesson 2: Sound Properties and Their Perception
Pitch and Frequency
The Speed of Sound
Lesson 3: Behavior of Sound Waves
Interference and Beats
The Doppler Effect and Shock Waves
Boundary Behavior
Reflection, Refraction, and Diffraction
Lesson 4: Resonance and Standing Waves
Natural Frequency
Forced Vibration
Standing Wave Patterns
Fundamental Frequency and Harmonics

http://player.slideplayer.com/13/3866392/#

Echolocation



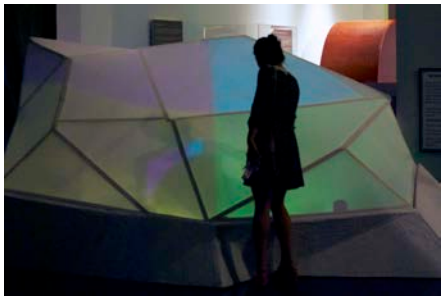
http://player.slideplayer.com/13/3866392/#

AEMI

http://nickhwang.com/portfolio-items/aemi/?portfolioCats=122%2C124%2C125%2C75%2C126

AEMI – the actuated embedded musical instrument is a wooden resonant shell driven by two tactile transducers. An internal microcomputer synthesizes sound based on performer input through a capacitive touch fingerboard, three game-style triggers, and an accelerometer.

Entwined



http://nickhwang.com/portfolio-items/entwined/

Entwined is a two-piece installation created for the 2014 Uncommon Thread Wearable Art Show. Users' interactions of touching, pushing, pulling, and plucking result in immediate and corresponding reactions from both structures. Video and Audio processing is based on

loudness and position of user interactions. The installation make use of Xbox Kinect and amplified sound as user interaction detection methods.

CELL MUSIC GEAR

https://www.youtube.com/watch?v=DKNtDv_3WKw

Sensor company Touchence and Instrument designer Yoshihito Nakanishi developed unique music tool. CMG-the Cell Music Gear- New MIDI controller! It can make you find and define your own style of performance.

Forest

http://www.artdiscover.com/es/noticias/visto-en-vimeo-instalaciones-sonoras/194

Forest is the latest interactive installation from Marshmallow Laser Feast, the London collective made up of Memo Akten, Robin McNicholas and Barnaby Steel. The installation consists of 150 musical "trees", made of reeds and laser beams, that create a "forest" of almost 450 square meters. Visitors are invited to explore the space freely and interact physically with the "trees". By shaking them and making them vibrate the audience activates the sounds and lasers, making them oscillate and create patterns of light and sound in a truly immersive experience.

BREATHING VOLUME

https://vimeo.com/142776337

Breathing Volume is an installation that offers a unique experience, merging dynamic architecture and immersive sound design. It plays with the notion of space in an audio-visual context. Upon entering the public will be embraced between breathing walls constantly changing their physical volume, for approximately 5 minutes, creating a perception of being inside a living organism. Four synchronised ventilators trigger the dynamics of the sound matrix and the movement of the walls by following the canon of human lungs. Subwoofers placed in its interior transform the pulsing bass frequencies into the soul of the organism. Breathing Volume unexpectedly steers the focus from what surrounds us, to what is immediate, here and now, offering a distorted reflection on our relationship with space, its distance and extension.

Silknost 1

http://www.codact.ch/gb/silik1gb.html

Two workers shovel sand into four buckets full of holes. These buckets are part of a mecanical chain: according to the increase or decrease in the weight of the sand they cause the movement of four balancing poles which, by a relay system of cables and pulleys, activate 4 sliding guillotines, placed side by side in front of a light projector. These guillotines act in the same way as a photographic diaphragm. The light, freed or obturated according to the movements of the guillotines, connects with 24 photosensitive sensors arranged on four columns. According to how they receive the light, these sensors, relayed by a converter, transmit signals to a sampler. The sounds corresponding to notes, developed in the studio, are then activitated and reproduced simultaneously with the movement of the buckets, and thus of the workers.

Cycloid

http://www.codact.ch/gb/cyclogb.html

To start off, a desire to approach mechanisms that produce visible undulatory movements and to set them against the development of sound waves. A pendulum. And if this pendulum was made up of horizontally articulated segments, if a motor replaced the gravitational effect? The segments of the pendulum become metallic tubes equipped with sound sources and with measuring instruments capable of making them resonate according to their rotations. A succession of unexpected movements becomes apparent.

The equilibrium in the energy exchanges between the segments is almost perfect; the trajectories are surprisingly right and natural. We're faced with Harmony. Through its fascinating and hypnotic dance, Cycloïd-? delineates the space of sound orbits and creates a unique kinetic and polyphonic work, in the likeness of the «Cosmic ballet» to which the physicist Johannes Kepler refers to in his «Music of spheres» in 1619.

OP_ERA: Haptics for the 5th dimension

http://www.laboralcentrodearte.org/en/recursos/obras/op_era-haptics-for-the-5th-dimension-2007

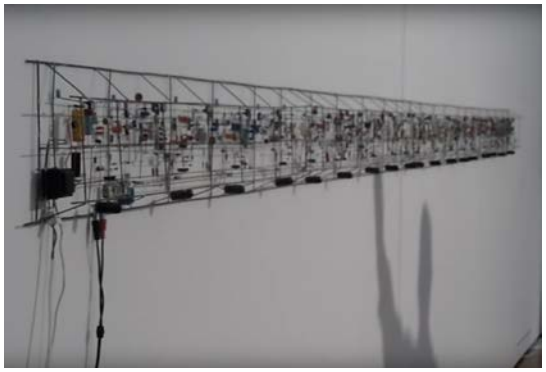
OP_ERA: Haptics for the 5th dimension is an immersive and interactive interface designed to produce auditory and tactile stimuli in the participant. The visitor who enters the showroom has no possibility to see anything. To acquire information about the surrounding space you must use a headset. Coupled to a tracking system composed of a series of sensors and infrared transmitters, an apparatus enables the user to perceive the shape and size of the virtual space-time as it identifies the user's location and relative position as a gravitational force. The system identifies the relative location of the visitor as a gravitational force and activates sounds that signal displacements of atomic particles in the virtual field. Thus the visitor perceives the shape and size of the real space-time through a non-visual digital representation as soon as it is used. The relationship between virtual space and user is feedback. A monitor located outside the room returns the images of the participants interacting with the particle field, which are transformed into sound within the installation.

Beepcon: the intelligent beacon that allows blind people to enjoy art

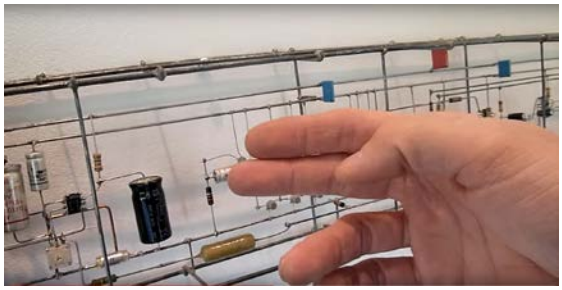
http://www.20minutos.es/noticia/3020259/0/beepcon-baliza-inteligente-permite-personas-ciegas-disfrutar-arte/

The ONCE Tiflological Museum is the first museum that has this new technology that facilitates the localization and the information of about works of art. Through their mobiles, the users are guided by the Tiflológico Museum and when they stop they receive complete information about the work before them.

Peter Vogel Soundwall

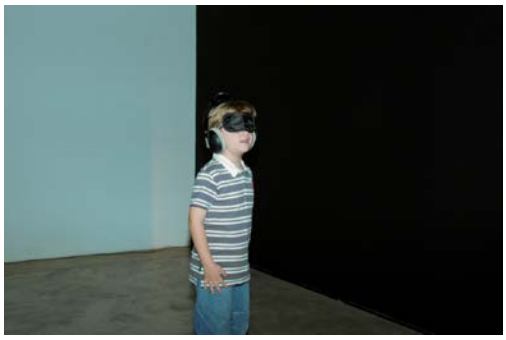


https://www.youtube.com/watch?v=paq4t7qNgvA



Electronic parts (transformers, capacitors, etc.) are arranged as musical notes in a score. People interact with this sound wall by pointing with the shadow of their hands the different electronic parts.

Audiogames [2.0]



http://estereotips.net/audiogames-2-0/

Audiogames is an experimental video game installation. Audiogames is a technologic playground not sight-oriented in which sense of hearing and ability to listen is the privileged way to interact. The player moves in a 6X4m space interacting with a binaural sound engine in real-time.
AudioGames is an attempt to build a common game space where both blind and sighted people can play together.

CONCERT FOR THE DEAF

http://www.youredm.com/2016/03/18/martin-garrix-7up-team-concert-deaf/

Martin Garrix and 7UP created a concert for the deaf that utilized a variety of tactile experiments and features to give participants the experience of **feeling their music**.