

10th Anniversary of Interface Cultures Celebrations

Faculty: Christa Sommerer, Laurent Mignonneau, Martin Kaltenbrunner, Michaela Ortner, Reinhard Gupfing

Ten years ago, the Interface Cultures master programme was established by Christa Sommerer and Laurent Mignonneau at the University of Art and Design in Linz, Austria. This programme teaches interactive art, interface design and the development of innovative interface solutions at the confluence of art, design and research.

The rapid and ongoing integration of media and communication technologies into our daily lives has caused significant social impact over the past years. The relationship between humans and digital technologies is intensifying and, one could say, becoming even more opaque. In our prosumer society, interactivity is omnipresent, as we are constantly asked to react, interact, evaluate, vote and judge. Social media play an important role in this trend. Big data, increased surveillance, the NSA scandal, cyber security, quantified self tendencies and a proliferating data economy bring up new social and cultural challenges.

Artists have always been barometers when it comes to interpreting and translating new societal changes. Participation is not a new trend in the arts; already in the 1950s, audience participation was drawn upon for art making, art perception and a critical reflection of society at large. Relational art and other forms of open artwork concepts have prepared the ground for interactive art since the early 1990s, and the Ars Electronica Festival is one of the key promoters for enabling and fostering this developing art form.

Over the past 10 years, students at the Interface Cultures Department have been developing interactive art pieces, new interface solutions and prototypes that investigate cultural and societal issues surrounding participation and interaction. So far, around 150 projects were realised, and 40 master theses and 2 doctoral theses were produced. These range from investigations into the connection between interactive and participatory art, aesthetic classifications of interactive art, the development of new musical instruments, playful and tangible interactions, research into human-plant interfaces, augmented social environments and brain-computer interfaces to the development of novel interfaces for media façades, digital storytelling and healthcare. The range of master thesis topics is very open and depends on the interests and background of each student. In a practice-based research approach, young artists and designers investigate how interaction and communication are challenging our society. They produce artworks and prototypes that range from media art, contemporary art, critical design and new interface technologies to new communication services as well as conceptual art and theoretical reflections.

Over the past years, media art and contemporary art have also grown closer together, and technologically supported art has finally entered the art market. Pioneers of digital art, kinetic art, reactive kinetic art, expanded cinema, electronic art and interactive art are finally being acknowledged by art history. In an academic context, media art has become an art form in its own right, with its own history, aesthetics, discourse and principles.

All this provides a great context for young students to engage in the ongoing development of interactivity and forms of audience participation as a reaction to current trends and tendencies in our society.

To present the wide range of topics that we have investigated and will continue to investigate at the Interface Cultures Department, we will celebrate the 10th anniversary of Interface Cultures at this year's Ars Electronica Festival with four events:

1.) “Interface Cultures Network Talks”

Here we will reflect on past and future trends in interactive art, interface design and education through lectures by our international partner university representatives. Our guests are: Prof. Masahiro Miwa from the IAMAS Institute of Media Arts and Sciences in Ogaki Gifu (Japan), Prof. Marie-Hélène Tramus from the Université Paris 8, Département des Arts & Technologies de l'Image (France), Prof. Dr. Maria José Martínez de Pison from the Máster en Artes Visuales y Multimedia, Departamento de Escultura, Facultad de Bellas Artes at Valencia Polytechnical University (Spain), Prof. Dr. Ying-Qing Xu from the Information Art & Design Department at Tsinghua University in Beijing (China), Prof. Philip Dean, Head of Department of Media at Aalto University, Helsinki (Finland), Prof. Stahl Stenslie from the Art and Technology Department of Aalborg University (Denmark) and Prof. Istek Cihangir from the Visual Communication Design Department at Bilgi University in Istanbul (Turkey).

The Interface Cultures programme provides a strong international network, and students are encouraged to participate in international exchanges with our partner universities in Europe, South America, Asia and Australia. These exchanges have helped our students to create a professional network for themselves and to gain professional experience and insight into other cultures. Over the years, our network has grown, and many international guest researchers from Japan, Europe, Brazil and other Latin American countries have visited the Interface Cultures Department for research stays from one month up to one full year.

2.) “Interface Cultures Student Exhibition”

For the past eight years, Ars Electronica has provided our students with the opportunity of showing their works at the Interface Cultures Student Exhibition. This year, we will feature our Department's latest developments to enable our students to present their works and prototypes to an international audience. 16 projects will be shown.

3.) “Interface Cultures Alumni Meeting”

The third format is the Interface Cultures Alumni Meeting. Interface Cultures graduates will give short presentations about themselves and their current workplace. They will explain how their studies have influenced their professional career. This Pecha-Kucha-style format is to enable networking between our current students and the Interface Cultures alumni and to enlarge the Interface Cultures family.

4.) “Bring Your Own Art Format”

This presentation format is open to all interested artists, international partner university students, guest researchers and all potential students interested in our programme. Everyone is invited to bring their own art projects in the form of short presentations, which are then projected or demonstrated and discussed by the Interface Cultures faculty. The format is intended to discuss new trends in media art and generally foster networking with a local and international community interested in media art and contemporary art. This format will also help to meet potential students and raise awareness of Interface Cultures' multidisciplinary and hybrid approach to topics relating to interaction and communication.

PROJECTS

60 flavors

Ulrich Lantzberg

This interactive installation uses the sensation of taste to show the relative levels of corruption in various countries. A machine transforms data about corruption directly into taste by modifying the flavour of chocolate candies. It does so by injecting different amounts of certain liquids into the chocolate. The user selects a specific country and gets edible information about the current level of corruption prevailing there.

60 flavors

Diese interaktive Installation spiegelt die weltweite Korruption in einer geschmackvollen Art und Weise wider. Eine Maschine wandelt Daten direkt in Geschmack um, indem sie das Aroma von Pralinen verändert. Dies wird durch Einspritzen von verschiedenen dosierten Flüssigkeiten in die Schokolade erreicht. Durch die Auswahl eines bestimmten Landes erhält der Besucher/die Besucherin essbare Informationen über den aktuellen Stand der Korruption.

Data Auditorio

Daichi Misawa

“Data Auditorio” is an interactive sound which is produced in a certain space. It enables audiences to participate in a game called “performance play”. The interactive sound software processes the feedback signals between the microphone and the hyper-directional speaker and aims to ultimately give rise to a kind of sonic organism; the sound is, in fact, an algorithmic composition entirely derived from the feedback signals in a real-time sonic environment. The installation utilises the format of a performance stage and encourages the audience to interact in natural fashion with the interactive sound, thereby making the game of “Data Auditorio” a more active endeavour.

Software design: Kiyomitsu Odai, Daichi Misawa

Greetings from Eastern Europe

Ioan Cernei (RO) & Tiina Sööt (EE)

“Greetings from Eastern Europe” is a multipart installation that combines everyday aesthetics from Romania and Estonia with technological intervention. The installation is based on our own situation and experience and attempts to share these with the participant. As Eastern Europeans now living in Central Europe, we are often confronted with lingering reminders of our countries of origin. As a result, we are in a perpetual state of being separated from our homelands, yet not completely detached from them. For us, the “greeting” is more than just a warm, homey message from our countries, because it has a flipside; it also makes us feel uncomfortable. Each object attempts to simulate and reflect one part of the Eastern European context, in which efforts are distorted and not appropriately rewarded, high expectations have low returns and the sociopolitical environment is inhospitable. The installation attempts to convey these feelings of slight discomfort. They might seem exotic – just like Eastern Europe appears when observed from the outside.

Hacking Meditation – When Stillness Interacts, video installation

Mihaela Kavdanska

Is meditation a special spiritual practice or does it constitute a normal part of everyday life?

Could meditation be a method of hacking public space?

Is the stillness it involves a way of hacking the daily routine?

The viewer is invited to take a seat on a meditation cushion in front of a screen and to remain motionless. The interaction of the viewer with the video results from his/her still presence. The video content thus triggered is a documentation of an intervention performed by the artist, which took place in the public space of a shopping mall. Mind hack. Life hack. Hacking the universe.

Short Circuit

Veronika Krenn

“Many right decisions were made because the direction to the wrong one was not available.”

Hans Krailsheimer

Human life involves making both easy and difficult decisions, including ones that affect the life of an individual or an entire community. Labyrinths can serve as a metaphor for human existence. Their winding paths with numerous sharp turns and twists lead to the centre, which represents individual successes and goals. Like a person in a labyrinth, electricity also tries to find its way through a circuit, for which it always selects the shortest path.

The project “Kurzschluss” proposes an electronic decision-making circuit in the shape of a labyrinth, thereby linking the representation of the circuit to its executive function.

Kurzschluss

„Zu mancher richtigen Entscheidung kam es nur, weil der Weg zur falschen gerade nicht frei war.“

Hans Krailsheimer

Der menschliche Lebensweg ist geprägt von leichten und schweren Entscheidungen, die das Leben jedes/jeder Einzelnen oder einer ganzen Gemeinschaft beeinflussen. Labyrinth spiegeln das menschliche Dasein mit ihren plötzlichen Wendungen wider und führen mit ihrem verschlungenen Pfad zum Mittelpunkt, welcher individuelle Erfolge und Ziele darstellt. Wie der Mensch in einem Labyrinth sucht der Strom seinen Weg in einem Schaltkreis und wählt dabei die kürzeste Strecke. In dem Projekt „Kurzschluss“ ist der elektronische Schaltkreis eines Entscheidungsfinders in der Form eines Labyrinths konstruiert und verbindet dadurch die Repräsentation des Schaltkreises mit dessen ausführender Funktion.

Mattress Bagpipe, sound Installation / collaborative music instrument

Ivan Petkov

A double airbed is transformed into a collaborative music instrument based on the traditional Bulgarian bagpipe Kaba Gaida. Visitors are invited to inflate it and interact with it. When enough air pressure has built up inside, a solo flute (chanter) and a drone pipe connected to it produce sounds like those of the traditional Kaba Gaida. The sound is influenced and controlled by the spectator-participants, who thus play a role in its creation. They can manually inflate the air mattress, lie or roll around on it or otherwise push the air out of it. By performing these actions, they cause the chanter to produce music.

Mattress Bagpipe, Sound Installation / kollaboratives Musikinstrument

Ein doppeltes Luftbett wird zu einem kollektiven Musikinstrument, das auf der traditionellen bulgarischen Sackpfeife Kaba Gaida basiert. Die BesucherInnen werden eingeladen, dieses aufzupumpen und damit zu interagieren. Wenn die Matratze ausreichend Luftdruck hat, kann man mit den Flöten – genau wie bei der traditionellen Kaba Gaida – Klang erzeugen. Die BesucherInnen beeinflussen und kontrollieren diesen Klang durch Aufpumpen der Luftmatratze, Liegen, Rollen oder das generelle Herauspressen der Luft bis hin zum Spielen auf den Flöten selbst.

Memory Wheel

Davide Bevilacqua

The “Memory Wheel” is a mnemonic (memory storage) device that can be used to store and manipulate data with the help of a magical kinetic process.

The device makes use of the mnemonic techniques proposed by Giordano Bruno in his *De Umbris Idearum*, where he proposes using combinations of symbols to store information in the human mind and retrieve it from there. The procedure, which was developed in the Renaissance, is here translated into a kinetic interface. It elucidates the process of creation and the exchange of bytes of memory between a central archive, which is present in the object itself, and the ideas of the individual visitor. He/she is supposed to bring these to the exhibition in digital form – i.e., stored on an USB stick. The manipulation of digital memories is visualised by the spinning of the wheels of the device. That movement and the sound it generates can be influenced by the direct interaction of the audience. The process of remembering thus becomes unpredictable and collective – just like human memory, which is dependent on so many unknown factors.

Money Never Sleeps
Martin Nadal

G.W. Bush said “Wall Street got drunk” in order to explain the cause of the current economic crisis. But perhaps the substance which Wall Street's brokers took too much of was not alcohol, but one of questionable legality.

“Money Never Sleeps” is a tangible interface for buying and selling equities in the stock markets of London, New York, Tokyo and Frankfurt. Unconventionally, the visitors are supposed to pretend to inhale a line of cocaine in order to buy or sell stocks.

My Haptic Diary
Jure Fingušt

Clay, whose use is intuitively understood, is one of the oldest building materials. Humans have always regarded the earth as the source of all things. Working with clay also involves an intense and powerful tactile experience. This interactive installation provides an environment in which the visitor is invited to participate actively. The process takes place on the surface of a sketch book. When the visitor starts to model the clay (which is provided), a web camera records the motions of his/her hands. The participant will leave two types of traces: a physical and a digital one. The recorded hands will be projected onto the floor in a form of a video mosaic.

Root Node
Nathan Guo

“Root Node” is a site-specific interactive installation. It involves stacked layers of disassembled remote controllers that are strung together by conductive rods and implanted in the ground. Whenever the root of the device becomes damp, nodes can be generated due to the conductivity of the earth, which in this case acts as an interface. This in turn triggers a soundscape constructed out of pulsed signals.

Inspired by Niklas Luhmann's notion of structural coupling and the materiality of communication, “Root Node” also refers to the topmost section of a tree data structure in computer science. The device functions as a reconfiguration of the exorbitant existence of techno narratives; as a poem depicting the metabolic process of signals; as “the reconstruction of deconstruction”; as a posthuman totem of worship...

Senseparation

Collaborative project: Leibniz Supercomputing Centre (LRZ), Ludwig Maximilian University Munich (LMU), University of Art and Design Linz (UFG)

Tomi Stevenson (LMU), Rico Sperl (LMU), Franziska Tachtler (LMU), Nathan Guo (UFG), Paulina Rauwolf (LMU), Nelson Heinemann (LMU), Eva Maria Scheer (LMU), Bernhard Slawik (LMU), Karin Guminski (LMU), Karol Kagan (UFG), Inga Bunduche (UFG), David Braune (LRZ), Michael Käs Dorf (LMU), Natascha Singer (LMU), César Escudero Andaluz (UFG), Jure Fingust (UFG), Ulrich Brandstätter (JKU), Felix Manke (LMU), Tibor Golschwendt (LMU), Oleg Maltsev (TUM), Christoph Anthes (LRZ / LMU), İdil Kızıoğlu (UFG), Martín Nadal (UFG), Kim Hyeonjin (UFG), Ivan Petkov (UFG), Chiara Esposito (UFG), Felix Hollegger (LMU), Beat Rossmly (LMU), Lisa Käs Dorf (LMU), Marlene Brandstätter (UFG)

The interdisciplinary experimental project focuses on the networking of people across the boundary between virtual and real space. An encounter between two people takes place at different locations. Tactile, visual and auditory sensory perceptions are separated and thereby amplified in order to initiate the encounter. With the help of an avatar, the virtual reality-based user is able to interact with the person in real space. Encounters over great distances that take place on a virtual level and are free of emotion are experienced in a new way.

Tangible Score **Enrique Tomás**

A “Tangible Score” is a tactile interface for musical expression that makes use of the physical shape, surface structure or spatial configuration of the score. Sound is used as a continuous input signal, and both synthesis and control are simultaneously achieved by directly manipulating the patterns engraved on the physical score. Every interface is conceived from a different graphic score which, although it represents a musical idea, has also been specially designed to produce a diverse palette of acoustic signals when touched. Sound is generated by a polyphonic concatenative synthesis driven by a real-time analysis and classification of the spectrum of the input signal. Each of the scores is loaded with a specific sound corpus that defines its sonic identity. Thus “Tangible Score” produces an implicit visual and haptic feedback in addition to its core sound-producing functionality, making it intuitive, learnable and a suitable interface for musical improvisation and sonic exploration.

Tapebook **César Escudero Andaluz**

“Tapebook” is an exercise in media archaeology. It involves the conversion of data extracted from social networks into audio documents. They are recorded on cassettes. “Tapebook” takes the information directly from the graphic user interface, alters the rhizomatic (root-like) structure of the hypertext and converts it into a linear sequence of sounds. Users can select and listen to recordings made from texts by philosophers, artists and writers who talk about media art in their profiles.
<http://escuderoandaluz.com/>

Tapebook

„Tapebook“ ist ein Projekt, das in der Medien-Archäologie angesiedelt ist. Es bestehend aus vertonten Textdaten, die aus sozialen Netzwerken extrahiert und auf Audio-Kassetten aufgezeichnet wurden. „Tapebook“ nimmt die Informationen direkt aus der grafischen Benutzerschnittstelle, ändert die Struktur des Hypertexts und ersetzt diese durch zeitliche Geradlinigkeit der Töne. Der Benutzer/die Benutzerin kann zwischen Audio-Aufzeichnungen von PhilosophInnen, KünstlerInnen und SchriftstellerInnen, die in ihrem Profil über Medienkunst schreiben, wählen.
<http://escuderoandaluz.com/>

That Way **İdil Kızıoğlu**

Even though we are not living in a science-fiction dream scenario in which virtual networks largely shape the dynamics of cities, virtually recommended places or routes are influencing the way we move about in urban environments. Web mapping applications gather information about the infrastructure of cities and add a virtual layer by making recommendations. "That Way" deals with what happens when we strictly follow these routes and questions whether these applications affect the way we experience cities.

The visualisations shown here are based on trips to several locations within Vienna, following only the recommendations of Google Maps' walking routes.

Translation III / Strafsachen
Cristian Villavicencio

"Translation III / Strafsachen" is a site-specific project that aims to put its exhibition space into a different context. It does so by describing its own surroundings in real time. For this purpose, a continuously rotating and shifting camera is utilised. The recording device is installed above the exhibition cell in a location that is inaccessible to the public. It moves around to follow the spectators through the exhibition space. The system interconnects two different spaces that are both situated in the same architectural structure but are physically separated by a partition. By capturing a place that is hidden from public view, this project aims to bring into awareness the layers of history that are present in the building but not accessible to the spectators, and to show the correlation between them and the physical presence of the public.

Trāṭaka, interactive installation based on a brain-computer interface
Alessio Chierico

"Trāṭaka" is a Sanskrit term, which means "to gaze". It refers to a meditation technique that involves focusing one's attention on a small object or, more commonly, on a flame. This installation consists of a device that detects brain parameters, such as the level of attention. The user puts it on and is then requested to concentrate his/her attention on a flame placed in front of him/her. The level of attention detected by this system controls a current of air that is located under the flame. If the user succeeds in sufficiently increasing his/her attention, the flame is extinguished.

This work creates a conceptual loop:

On the one hand, the flame helps the user to get into a meditative mood, which stimulates the brain chakra. On the other hand, the flame provides feedback showing brain activity in real time.

Ursuppe, sound performance
Davide Bevilacqua (IT), Alberto Boem (IT)

"Ursuppe" is a sound performance that involves jelly made out of the seaweed agar agar and analog oscillators. When agar agar is cooked to form a gel, a semi-solid structure made of proteins is formed. It can contain various substances that might imbue the material with particular characteristics. In this case, the salinity makes the flow of electricity possible.

The resistance of the jelly modulates the oscillators, so that the sound which they produce is led back into the agar agar. This creates a feedback loop that chemically modifies the material and its properties. These changes then affect the way in which the electricity passes through the materials, giving rise to an unstable and self-influencing process. The performers thus shape a network of relations in which a continuous modification of the flow of energy takes place. A video camera located above the performers provides a larger-scale view of their actions, the effect of these on the agar agar and its oxidation and liquefaction.