ARS ELECTRONICA

Ars Electronica Linz Makes a Guest Appearance in Bangkok

Linz Media Art Platform Presents an Exhibition at ITU 2013

(Linz, November 20, 2013) Since 1971, the ITU–International Telecommunication Union has regularly hosted conferences attended by experts from throughout the world and representing both the public and private sectors. Most recently, more than 3,000 heads of government and ministers, corporate CEOs, consultants, specialists in related academic fields, and UN agency officials convened in Dubai to give some thought to the future of the telecommunications industry. This year, ITU World is set for November 19-22 in Bangkok. For an on-site exhibition, Ars Electronica has been invited to contribute art installations that make some relevant, eye-opening statements.

Ars Electronica Linz Stages "The Lab"

Whether it's the use of mobile devices, the so-called internet of things, or issues related to privacy and data security—the points of departure of all these artistic investigations are the latest technologies, the social upheavals they trigger, and their potential consequences for the telecommunications industry. "The Lab" demonstrates how very creative people are already using new technologies, and which applications might soon strike the fancy of mainstream masses too. Ars Electronica presents best-practice examples at the nexus of art, technology and society that reveal the emerging opportunities and looming risks facing protagonists in business, science, politics, art and societies worldwide. The focus is on new forms of communication and participation, new types of artists and scientific disciplines, uncommon alliances and business models with tremendous future promise. This will be a fascinating encounter with the enormous potential of technological innovations and the changed relations of power that will inevitably result from them.

The Lab: http://export.aec.at/itu2013/
ITU World 2013: http://world2013.itu.int/
Ars Electronica Linz: http://www.aec.at/news/en/

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The Lab / Works

AE Solutions (AT): Shadowgram (2010)

http://www.aec.at/solutions/en/shadowgram/

Shadowgram is an innovative spin-off of so-called social brainstorming. It gets interesting things started by photographing a participant standing before an illuminated wall. The result is a striking silhouette that can be printed out as a sticker, which the participant then brings to life with a speech balloon (that can contain remarks and personal opinions about any particular subject) and attaches to a map. Grouped into predefined thematic clusters, the silhouettes and accompanying speech balloons speak loud and clear about current opinions and trends.

Golan Levin, Shawn Sims (US): The Free Universal Construction Kit (2012)

http://fffff.at/free-universal-construction-kit/, http://vimeo.com/37778172, Golan Levin talking about The Free Universal Construction Kit: http://shelby.tv/video/vimeo/44337372/ignite_eyeo2012-12-golan-levin-mov, http://prix2012.aec.at/prixwinner/7444/

The Free Universal Construction Kit is not a product, but a provocation. It offers working adapters between Lego, Duplo, Fischertechnik, Gears! Gears! Gears!, K'Nex, Krinkles (Bristle Blocks), Lincoln Logs, Tinkertoys, Zome and Zoob—adapters that can be downloaded free from various sharing sites as a set of 3D models suitable for reproduction by personal manufacturing devices such as the Makerbot (an inexpensive, open-source 3D printer). In so doing, The Free Universal Construction Kit prompts consideration about intellectual property, open-source culture and reverse engineering as a mode of cultural practice.

Markus Kayser (DE): Solar Sinter Project

www.markuskayser.com, http://prix2012.aec.at/prixwinner/5807/

In a world increasingly concerned with questions of energy production and raw-material shortages, this project explores the potential of desert manufacturing, where energy and material are abundant. In this experiment, sunlight and sand are used as raw energy and material to produce glass objects using a 3D printing process that combines natural energy and material with high-tech production technology. Solar-sintering aims to raise questions about the future of manufacturing and triggers dreams of the full utilization of the production potential of the world's most efficient energy resource—the sun. While not providing definitive answers, this experiment aims to provide a point of departure for fresh thinking.

Matthew Gardiner (AUS): Oribotics (2012)

www.oribotics.net

Matthew Gardiner investigates aesthetic, biomechanical and morphological connections among nature, origami and robotics. The configuration of his patterns of folds—particularly the precise array of V-shaped valleys and Λ-shaped ridges—determines the mechanical

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design of his creations. In these structures that are the outcome of "nature's origami," thousands of folds occur in a few microseconds, and even a single folding error can have a devastating effect on an organism's viability. Accordingly, the latest "Oribotics" generation features a polyester fabric membrane that can withstand millions of interaction sequences with hardly any wear and tear. Each Oribot is equipped with a proximity switch that registers any object in its immediate surroundings. If an installation visitor's hand, for instance, approaches, the Oribot opens its flower-like structure, an operation in which 1,050 folds are in motion. All macro-interactions are network- & software-controlled. Each micro-interaction is forwarded to every other Oribot in the installation and thereby triggers more than 50,000 folds.

h.o: Kazamidori

http://vimeo.com/36808335

"Kaza" (wind) "mi" (watch) "dori" (bird) is a Japanese expression for a weathervane. Kazamidori is a device to indicate the social wind of interests on the Internet. It works by using the social energy of web accesses to Ars Electronica. When somebody visits the Ars Electronica website, Kazamidori turns to point in the direction of the visitor.

g.tec: Brain Computer Interface

http://www.gtec.at/

Orthobionic® is the term coined at Ottobock to refer to the observation and analysis of bodily functions as a basis for the technical development of prosthetic and orthotic products. From knowledge about natural structures and processes, our engineers derive technical solutions designed with people in mind. The essence of Orthobionic® innovation is interdisciplinary collaboration among experts in technology and medicine. Technicians perform research on the human body to consider how medical findings and insights can be implemented in the form of machines. Orthobionic® is the scientific basis of Ottobock's technological edge.

Paro

www.aist.go.jp

Paro is an animal-like robot that has been in use in Japan and Europe since 2003 for therapeutic purposes—for example, providing care to people with Alzheimer's disease. Modeled on a baby seal, Paro registers environmental stimuli via two computers and five sensors that measure touch, light, sound, temperature and physical position. This enables it to interact with its human interlocutor. Paro is able to learn—it can recognize 50 different voices and responds to its name. The form of a baby seal was selected because most people have no preconceptions about how this creature behaves.

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Martin Frey (DE): CabBoots (2005)

http://www.freymartin.de/de/projekte/cabboots

German artist Martin Frey's "CabBoots" constitute an innovative pedestrian guidance system. The interface makes the communicated information palpable and intuitively understandable by applying it right to that part of the body that is most directly involved in walking: the foot. The point of departure of Martin Frey's considerations is the topography of a hiking path, which is typically trampled down in the middle and noticeably higher on either edge. Walking along such a trail, your feet come down upon flat ground only in the middle of the path. The upward curvature of the ground on the trail's outer edges produces a slight– and slightly uncomfortable–pronation of the foot. This is something that human beings intuitively avoid, so that we invariably seek out the middle of the path. This is where Martin Frey's "CabBoots" come in. They tilt the soles to the outside or inside and thus steer the wearer in a particular direction. In this way, virtual routes can be navigated without a map–or one's eyes, for that matter. The software for determining the walker's position and calculating the route is designed to run on mobile devices like a smartphone, iPhone or PDA that can communicate wirelessly with the CabBoots.

Dash Macdonald (GB): In Your Hands (2008)

The roller skates Dash MacDonald dashes about on aren't the kind you buy in stores. His skates can be remote controlled via radio and steered in any direction. In one of his "In Your Hands" performances, he literally turns over the controls to passers-by, who can then move him about like an action figure. With people faced by such temptation, it usually doesn't take long before the skates are being maneuvered into ever-more-absurd and impossible situations. Amidst the general mirth, most people fail to get the point Dash Macdonald is trying to make here: to find out how far people will go in amusing themselves at someone else's expense? "In Your Hands" was inspired by the Milgram and Stanford Prison experiments. "Impetus and Movement" presents a video of a performance.

Iori Tomita (JP): New World Transparent Specimens (2012)

www.shinsekai-th.com

For his "New World Transparent Specimens" Japanese artist Iori Tomita turned sea creatures into strangely fantastic specimens. As a student, he learned the technique of producing specimens for purposes of scientific analysis. The creatures' muscle tissue is made translucent by dissolving its natural proteins; thus, it takes laboratory techniques developed by scientists to reveal the precise forms created by nature. The body parts are then stained, whereby the harder and softer tissues (such as cartilage) are treated with different colors. Depending on the size of the organism, it can take up to six months to create a specimen. The way Iori Tomita works is an example of the interplay of art and science. Employing what is actually a method of scientific analysis, he creates bizarre sculptures that resist pigeonholing either as a work of art or as a scientific project.

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Otto Bock (AT): Orthobionic

http://www.ottobock.at/cps/rde/xchg/ob_at_de/hs.xsl/8333.html

Ottobock's research & development mission is to come as close as possible to the consummate ideal: nature itself. Simply formulated questions yield technological challenges: How does a knee joint function? What stresses does a foot have to withstand on a daily basis? Which terms best describe the operation of the hand as a high-precision organ for grasping? The analysis of natural interrelationships inspires our R&D engineers to think innovatively and come up with novel solutions. In this endeavor, enhancing existing products is just as important as developing new technologies. The results have been a whole series of high-tech breakthroughs.

Neurowear (JP): NECOMIMI

www.neurowear.com, http://vimeo.com/53588182, http://prix2013.aec.at/prixwinner/10784/

Necomimi is world's first commercialized communication tool using brain wave. The headset can detect and interpret your brainwaves using a single sensor that rests on your forehead. Necomimi then translates the brainwave data into cat-like reactive movements that show how interested or relaxed you are in real time. When something catches your attention, the ears shoot straight up. When relaxed, the ears droop down. Necomimi uses EEG to show emotion from subconsciousness. Using Necomimi, the communication overcoming languages, ages, genders, or races, turns into reality. "Neurowear" is a team of creators based in Tokyo, focused on creating "communication for the near future".

Belinda Cullen (GB), Jim Reeves (GB), Martin Riddiford (GB): GravityLight

http://deciwatt.org/, http://prix2013.aec.at/prixwinner/10798/

GravityLight is a revolutionary and sustainable approach to generating power and light. It eliminate the need for kerosene lamps, offering huge health, economic and environmental benefits. It takes around three seconds to lift the weight that charges GravityLight, which will provide up to 30 minutes of constant light as the weight drops under the force of gravity. The weight is a bag (which doubles as the product packaging) that the user fills with 9 to 12.5kg of material (earth, rocks or sand). This connects to GravityLight via a plastic strap that passes through the generating mechanism. A series of gears and a generator inside translates this slow falling mass into electrical energy. The system can be varied to provide either task or ambient lighting, or both simultaneously at a lower level. It has terminals on the front to allow it to be used purely as a generator to top up batteries, or to power various low-voltage devices, such as FM radios. GravityLight has no batteries to run out, replace or dispose of and has no reliance on the external environment, time of day, season or weather. As there are no running costs after the initial low-cost purchase, GravityLight has the potential to help lift people who would otherwise spend a large proportion of their income on kerosene for lighting out of poverty.

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Ars Electronica Solutions: Brain Battle

http://www.aec.at/solutions/brain-battle/

rain Battle is an extraordinary form of interaction that makes a futuristic game controller available right now: the brain-computer interface. Players use the power of their thoughts to face off in the ultimate form of mental combat. An electroencephalogram (EEG) is something most of us associate with imaging in the medical field, but now this technology has been introduced into computer gaming. In Brain Battle, the aim is not only to control the course of the game via thoughts; the interface also enables players to use body language—for instance, tilting their head or facial expressions—as a form of interaction. This adds a fresh twist to classic computer games like Pong, Space Invaders and Pac-Man.

The Blind Robot

http://prix2013.aec.at/prixwinner/11160/, http://www.aec.at/aeblog/2013/10/28/the-blind-robot-bei-the-lab/

With The Blind Robot, the aim is to further understand the degrees of engagement, whether intellectual, emotional or physical, that are generated when a social robot intimately touches a person. Initially, The Blind Robot is a minimalistic piece of mechanical engineering. The rationale is to start from a recent known cultural artifact—the robot arm—and transform it from a high precision tool into a fragile, imprecise and emotionally loaded agent. The Blind Robot comprises a typical robotic arm equipped with an articulated hand. In this installation, visitors are invited to sit in the front of this machine and engage into a non-verbal dialogue with it. The robot delicately explores the body—mostly the face and upper body—of the visitor in a manner that recalls what blind people do to recognize a person or an object. On a nearby screen or projection the machine then produces a visual rendering of what its fingertips have "seen."

Spaxels – Ars Electronica Quadcopter Swarm (2012)

http://www.aec.at/spaxels/

The Ars Electronica Quadcopter Swarm is a World-novelty in professional event & show business. It's a swarm of up to 50 LED-equipped quadcopters that fly in formation and perform cool feats of airborne choreography. The accompanying lighting and sound effects create an extraordinary aesthetic experience. The technology employed isn't all that's state-of-the-art; what wows viewers most of all is the performance's futuristic artistry, which thus lives up to the claim to excellence that has made a name for Ars Electronica worldwide.

Gustavo Valera (ES): 3D Printer

Gustavo Valera is part of the Ultra-Lab project. His specialty is fabrication technologies that enable the members of an entire community to produce and distribute things themselves. At the same time, this approach also generates knowledge that, in turn, flows back into the community.

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Fraunhofer Heinrich Hertz Institute (DE): Visible Light Communication
http://www.hhi.fraunhofer.de/en/media/press/high-speed-internet-from-the-ceiling-lamp.html?NL=0

Providing illumination isn't all that ceiling-mounted lighting fixtures can do; they're also able to quickly and securely deliver films in HD quality to any smartphone or laptop in the room! Visible Light Communication (VLC) is what makes it possible. The spectrum of potential applications is incredibly broad, ranging from hospital operating rooms where security has top priority, to trade shows and factory floors where radio transmission is often difficult.

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