2014 Ars Electronica Festival

Device Art

(Linz, September 3, 2014) Tongue-in-cheek, playful, a little offbeat—*Device Art* is a comparatively new art form that takes conventional high-tech devices and soups them up with designs that are as outlandish as they are sophisticated. The results are functional objects that blend art, design and technology in a whimsical way. A particular device's form and appearance are impossible to separate from its function. This major exhibition at Ars Electronica features works by a Japanese coterie surrounding Hiroo Iwata as well as artists at the ART|SCI Center of the University of California Los Angeles, and Kontejner, the Bureau of Contemporary Art Praxis in Zagreb, Croatia. *Device Art* was curated by Hiroo Iwata and Machiko Kusahara (both JP).

Modernity Dovetails with (Japanese) Tradition

Japanese tradition calls for art to be integrated into everyday life. *Device Art* does just that—taking commonplace technological tools and customizing them with new materials and capricious outer shells that transform them into artistically designed objects which manifest the thoroughly serious concept behind them only at second glance. Some of these "gadgets" are already available as commercial products; others will never make it to that point—and weren't meant to. The Device Art group formed in 2004 around Hiroo Iwata, a scientist associated with the University of Tsukuba, Japan. The Device Art project has been financed by the Japan Science and Technology Agency's CREST–Core Research for Evolutional Science and Technology program. Sincere testimony to the Device Art movement's success and resonance is the fact that, since its inception in Japan, groups of artists pursuing this philosophy have emerged in other countries as well.

Device Art / Works

Robot Tile / Hiroo Iwata (JP)

Hiroo Iwata's *Robot Tile* enables you to literally walk through virtual worlds without straying even slightly from your current location. Completely autonomously, the *Robot Tile* form a sort of pathway on which the user can take one step after another. The individual plates can move forwards, backwards and sideways, whereby their positions are determined by infrared sensors on the floor. A computer manages the entire system and manipulates the plates to move in the opposite direction in which the user is walking so that he/she always remains on the same spot.

Otamatone Jumbo & Digital / Novmichi Tosa (JP)

Otamatone is a musical instrument that's shaped like a musical note and sounds like a theremin, an electronic musical instrument invented in 1919. You produce sounds with the

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otamatone by stroking or pressing the instrument's neck, which lets you determine the sound's pitch as well as create special effects. Since 2009, Novmichi Tosa has been working together with the Maywa Denki artists collective and the CUBE Works company to develop diverse variations of this instrument, which Maywa Denki promotes in entertaining performances in which their costumes and act are reminiscent of product presentations of electrical appliances in the 1960s and '70s.

Mr. Knocky / Novmichi Tosa (JP)

Mr. Knocky is the latest product by Novmichi Tosa. *Mr. Knocky* plays percussion, remote-controlled and without the use of electricity. That makes it a perfect supplement to the other instruments Tosa has brought out, the *otamatones*.

Robot Mask / Kenji Suzuki (JP), Dushyantha Jayatilake (LK)

Robot Mask amplifies the expressiveness of the human face. To do so, it has recourse to robotic as well as biomedical technologies. It was originally developed for patients paralyzed on one side of their face—stroke survivors, for instance. *Robot Mask* measures the myoelectric signals on the healthy half of the face and transmits them to the impaired half.

SiliFulin / Ryota Kuwakubo (JP)

Sili means hip; fulin means swing. In *Silifulin*, Ryota Kuwakubo transfers the hips' swing to a robotic device that can be seen as an extension of its wearer's spine. It swings back and forth like a tail. *SiliFulin* is very simply buckled on like a belt. In constructing robots, engineers are often inspired by how people behave and move, or by the human physique. But in *SiliFulin*, Ryota Kuwakubo takes the opposite approach—he asks what effect robotics is having on human beings. What would be different if we had a tail? Would we communicate differently or move in different ways?

Happiness Hat / Lauren McCarthy (US)

Happiness Hat "trains" the person wearing it to always smile brightly. It features a built-in sensor that measures the wearer's facial expression. If it doesn't detect a smile, a servo motor actuates a tiny metal spike that delivers a painful reminder to the back of the wearer's head to put on a happy face. This is Lauren McCarthy's way of pointing out how important facial expressions are to interpersonal communication and to the misunderstandings that can arise when facial expressions and feeling no longer correspond.

Conversacube / Lauren McCarthy (US)

Conversacube helps find the right words in any situation. The tiny box is equipped with two screens and microphones. It simply needs to be set up between two interlocutors and *Conversacube* starts delivering prompts to keep any conversation going smoothly. Lauren McCarthy thus asks whether technology that assists us doesn't also produce dependency to the same extent.

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Nikodama / Ryota Kuwakubo (JP)

A human being already acquires the ability to recognize faces and differentiate among them in the first few months of life. And since the face is the "pattern" that's most familiar to us, we have a tendency to discover faces wherever we look. With tongue slightly in cheek, *Nikodama* dovetails findings in the field of behavioral biology with technology and Japanese philosophy. Once two *Nikodamas* are attached to an object, they together form a face that's funny looking, more or less. If two eyes are moved closer to each other, these become synchronized via an infrared interface and occasionally wink. *Nikodama* is a commercial product available online.

Thanks Tails / Kazuhiko Hachiya (JP)

Thanks Tails are robotic tails that can be mounted on the back of a car to serve as a nonverbal communication tool. With this new "organ," the automobile's driver can use simple signals to get across to other motorists what kind of mood he and his passengers are in.

Parallel Lives / Hideyuki Ando, Eisuke Kusachi, Junji Watanabe (all JP)

Parallel Lives is an installation that consists of two screens on which human beings are visible. One screen displays "real" people moving back and forth, whereas only their shadows can be seen on the other one. By simply touching a screen, people can be sent back and forth from one world to the other.

A Couple of Irons / Eric Siu (HK)

A Couple of Irons consists of two conventional steam irons, in each of which a camera and a small monitor are integrated. Everything captured by one iron's camera is displayed on the other one's screen. These everyday household appliances, as a couple of absurd visual devices, encourage creative interaction. A hands-on approach is expressly encouraged!

Touchy / Eric Siu (HK)

Touchy makes the person wearing this special helmet blind until another person touches his/her skin 10 seconds long. Then *Touchy's* lens apertures open; the person wearing the helmet can see again, and the built-in camera takes a photo to capture the moment. The most recently captured image is displayed on the back of the helmet, and all the snapshots made here are then uploaded to *Touchy's* Facebook page. Eric Siu's purpose in creating this device is to call attention to growing social isolation.

Sustainable Cinema No. 2: Lenticular Bicycle / Scott Hessels (US)

Sustainable Cinema is a series of kinetic sculptures that combine natural energy sources with optical illusions to produce moving pictures. Scott Hessels' aim in creating these works is to call attention to environmentally friendly media and sustainable solutions for providing energy to new technologies. *Lenticular Bicycle* is the first manpower-driven sculpture in this series. To accomplish this, Hessels adapted a bicycle like the ones widely used in Southeast

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Asia to transport cargo. The bike sets in motion a cylindrical apparatus on which images are painted. Once the cyclist starts to pedal, the cylinder rotates and the images become a movie.

Tateye / Anselmo Tumpić (HR)

Tateye is a functional prototype that engraves an image—actually, a permanent tattoo—onto the user's retina. Anselmo Tumpić isn't pursuing the idea of marketing *Tateye* at some point. Instead, the point is to give you food for thought about which and how many signs have been "burned" into your consciousness, and the tremendous influence they have on your behavior.

Beggar Robot / Sašo Sedlaček (SI)

Beggar Robot knows no shame. It unabashedly panhandles passers-by. And, conversely, it is taken notice of and tolerated more often than human beings who need the support of others. In Sašo Sedlaček's opinion, people who are socially better off are able to display sympathy for the disadvantaged only when they don't have to interact directly with them and, instead, can do it from a safe distance.

Food Simulator / Hiroo Iwata (JP)

Food Simulator imitates a foodstuff's taste and consistency, as well as the sound made when it's chewed. A pressure sensor simulates resistance to chewing. Other models of this device contain a built-in dispenser or atomizer to replicate a particular foodstuff's taste and aroma. The sound made by chewing the real foodstuff is recorded in advance by a bone vibration microphone and played back synchronized to the user's chewing movements.

Videobulb / Ryota Kuwakubo (JP)

Videobulb is a small device that can be hooked up directly to a television's AV socket. It then plays an infinite loop of "Bitman," a black-and-white animated film created with the help of Bit-hike software programmed by Ryota Kuwakubo himself. *Videobulb* was developed at a time when USB sticks weren't on the market yet. Back then, the idea of storing data on such a tiny device was nothing less than revolutionary.

Inside Out / Jaehyuck Bae (KR)

Inside Out is a series of kinetic sculptures that transform mechanical movements into the poetic interplay of light and shadow. South Korean artist Jaehyuck Bae used a computer to design his complex works and a laser cutter to excise the individual gears and other elements out of transparent acrylic glass. *Inside Out* turns the mechanical systems of machines inside out and thereby plays up that which usually remains hidden deep inside the devices we use in everyday life.

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POPAPY / Masahiko Inami, Kentarou Yasu (JP)

POPAPY is a postcard that turns into a three-dimensional popup card when it's heated in a microwave oven. The card is covered with a special heat shrink sheet and thin, microwave-safe aluminum foil strips. The aluminum absorbs the microwaves and transmits the heat to the heat-sensitive paper sheet, which then begins to shrink. This is what causes particular parts of the postcard to bend, stand upright and produce the 3-D effect.

Urania / Martina Mezak (HR)

Urania conjures up white clouds in a blue virtual sky. All you have to do is blow air into a plastic tube and computer-generated clouds appear on the ceiling projection.

Pendulum / Sanela Jahić (SI)

Pendulum is a kinetic installation that makes LEDs rotate and swing back and forth so rapidly that they produce apparently two-dimensional images visible to the human eye.

Device Art: http://www.aec.at/c/en/deviceart/
C ... What it takes to change: http://www.aec.at/c/en/
Festival Blog: http://www.aec.at/c/en/blog/
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