

ESKIN 4 and 5: Empowering visually challenged people with a voice about the Anthropocene

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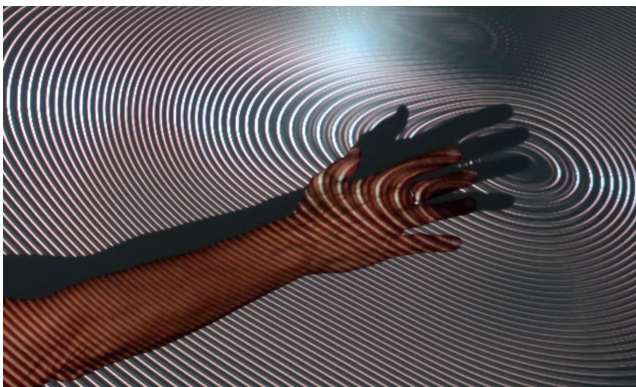
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Abstract

Climate change mitigation means that humans need to actively reduce their (anthropogenic) emissions of greenhouse gases (GHGs) or increase the capacity of carbon sinks through activities such as reforestation. We believe that mitigation is a cognitive mind set, one that may be helped by creating more tactile and sound platforms to raise awareness about the need for action and changes in our behavior. Currently we seem to suffer from cognitive-biases that prevent the reduction of negative effects and produce unconscious, automatic influences on human judgment and decision making that reliably produce reasoning errors. Eskin is an ongoing platform to give visually impaired people the chance to engage in the cognitive and activist mitigation debate by participating in cultural expression that is so visually dominant and normally leaves them out. We want to provide them with a unique opportunity to learn more about their own local ecologies and to speak out about our anthropogenic effects on their local environments and surrounding bio-diversity.

Keywords

mitigation, visually challenged participants, wearable technologies, mediated platforms, neuroscience and ecology



The Process

Eskin began as a wearable technology platform in 2002 at the Artificial Intelligence lab in Zurich, Eskin version 4 took place in Durban, South Africa at ISEA and Eskin version 5 was recently held in Basel, Switzerland at The House of Electronic Art. In both cases the process began with interviews with the selected group about their sound and tactile memories of natural environments from their childhood. This information is used to build a script of customized sounds from wearable computing artifacts that they can move with on the stage and that create a set of sonic landscapes. Together with advice from local ecologists and environmental scientists we build the script and media platform with scenes and a refrain, about the effects of human activities on particular parts of their local environments. With their help we also write a set of poetic narratives and recordings. This process cumulates into a choreographed performance for an audience of both sighted and visually challenged audiences.



The Main Aims

Our skin is the largest organ of the human body for orientation, navigation and communication. The main aims of our eskin media platform have always been based on cross-modal interaction with a focus on the tactile potentials of the participants own skin as their eyes for the world. In this way the sighted audience can have an insight into heightened levels of sensory perception that the visually challenged people use to explore nature. Another aim is also to demonstrate to other visually impaired participants and audiences that creative potentials for mitigation can be increased by using new technologies in a different way. So in 2009 we began to to construct a reactive platform where tactile tools can be used like instruments to explore the sounds of nature and to develop new wearable technologies for them. By using real-time audio descriptions they can link their movements to visual ecological content that appears on the screen. We also care about leaving this knowledge exchange behind us for the communities we have worked with, so that they can continue to meet and collaborate on movement and the anthropogenic effects of human behavior.

Results

Eskin 4 Durban | Eskin4 took place in ISEA in Durban with 7 visually impaired learners from the Mason Lincoln school and two local choreographers. Here we focused on the carbon footprint of the Durban Coastline. This coastline is one of the most biodiverse hotspots on our planet with 2,000 plant species, 97 km of coast, 18 rivers and 16 estuaries-all within 4,000 km of river shoreline. Climate change is definitely affecting this biodiversity. Five scenes related to the environments of export crop farming, loss of bio diversity in the rivers, sand erosion on the ocean, species depletion in the forests and mitigation for bio-diversity action.(1)

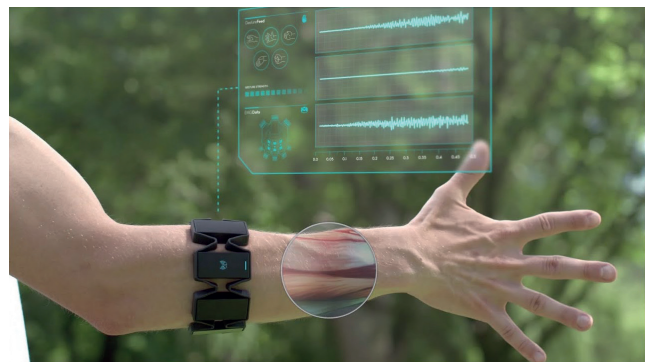


Eskin 5 Basel | Eskin 5 was held this year at the House of Electronic Arts in Basel, and we worked with 5 visually challenged participants and 2 local choreographers. Here we focused on the surrounding problems of the Jura Mountains and the city that became the focus of scenes for this performance. The five scenes related to overuse of the soil, heat generated by the city of Basel, micro-plastics in the Rhine river, and extinctions in the forest as well as mitigation for alternative energy resources.



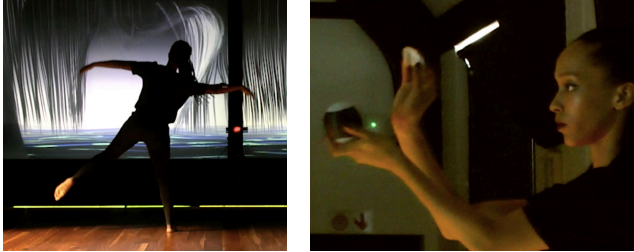
Current Eskin interfaces

For both performative platforms of Eskin 4 and 5 we used three interfaces, 7x myo armbands, molecular balls and Kinect. The Myo Armbands Measure the gestures and connects via Bluetooth and network to MaxMSP Software where their personal sounds are stored.



The Molecular balls – use Riot software to track the movement of balls and magnetic fields and then send signals via Wi-Fi to MaxMSP Software where environmental ambient sounds are harmonized with the background sound track. Because we want to track the movement of the visually challenged participants on the stage so that the movements affect the graphics in real time on TouchDesigner Software we employed the KINECT infrared camera. These real-time interfaces give them hands on experience of technology that they would normally not have access to and it augments

their expression and customizes their personal reactions. They also help to bring the tactile, visual and sound perception from neuroscience and ecology onto the same platform where climate change can be felt and heard, rather than seen. We hope that other countries will also be interested to host eskin.



Empowerment and Inclusion

Eskin 4 and 5 augmented and empowered the performers with their own voice about climate change and our anthropogenic effects on the environments and let them express themselves on local levels about these global issues. (2) The platform helped them express themselves and to orient and navigate in the space and it gave them confidence to continue with performative meetings on their own. In Durban it gave them a start to form their own dance company, now called: Eskin Equality and in 2018 they performed at the Equal rights festival in Durban. Presentation of filmed excerpts from both projects are available online and will be presented in talks as well as in audio descriptions for the visually challenged. (3) The aims of the films are also to encourage the audience to be more pro-active about their affects on our environment. Together with our participants we believe that the crust of our earth is our skin so let`s get together and take care of it.



1 Le Frenais, R. The Distributed Virtual. Jill Scott's eskin4 project and other electronic environments in the new wave of virtuality. In *Artlink*. Vol. 18–4 Virtual Reality.

2 Credits

Media Team | Jill Scott (concept and direction), Marille Hahne (documentary, lighting, set), Andreas Schiffler (systems designer), Andrew Quinn (real time visual design and programming), Vanessa Barrera Giraldo (electronics and audio engineering), Valerie Bugmann (sound research), Olav Lervik (ambient music), Victor Giers (sound interaction design)

ISEA Durban 2018 Participants | Mason Lincoln Special Schoolin Umlazi: Nomkhosi Gumede, Nompumelelo Zikhali, Nozipho Zungu, Balungile Thwala, Melusi Khumalo, Vusumuzi Khumalo and Sboniso Ngubane

Dancers / Choreographers | Thobile Maphanga and Lorin Sookoolm

Co-producers | Tyla Coppinger (ISEA) Bongeka Gumede (Mason Lincoln School) and Mandla Matsha (drums)

HEK Basel 2019 Participants | Producers HeK, Basel, Choreographers Dominique Cardito and Tommi Zeuggin, Visually Challenged Participants, Pina Dolce, Roberto Collidoro, Nicole Pfister, Leila Grillo, Daniel Fernandes, plus Scene 5 by Daniel Fernandes, Daniel Bisig, Wearable shoes, Lucie Bader Outreach, Promotion

3 Websites for the films on Eskin research: Eskin4 and Eskin 5: www.jillscott.org www.marillehahne.com

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Durban | prohelvetia, schweizer kulturstiftung, ISEA2018
Basel | H3K, stiftungcorymbo, Stiftung Blindenheim Basel, Verein zmittsdrin, Crowther Lab ETHZ, mcr University of Basel

Biographies

JILL SCOTT is professor emerita at the Zurich University of the Art in Switzerland where she founded the Artists-in-Labs Program (ZhdK) in Zürich. She is a media artist, theorist, teacher and context provider. Her research spans neuroscience, ecology, performative installation and media art. In 2002, she began studying neuroscience and ecology and eskin is an example of her interest in designing media platforms with wearable technologies that give visually impaired learners the chance to engage in our visually dominant culture and to help others learn more about sensory perception and reflect on their own ideological, biological, ecological, gendered and ethical futures.

MARILLE HAHNE is a lecturer, optical engineer and filmmaker who currently specializes on documentaries about sociology and art / science collaborations. She is also specialist in visual systems research and interactive film. Hahne is professor emerita in Filmmaking and for 25 years she taught at the Zürich University of the Arts (ZHdK) and was the director of their Master education program. She specializes in films about Art and Science collaborations (AIL Productions and Neuromedia).