Art.CHI 2015

Interactive Media Works

This catalog accompanies the Art.CHI workshop and exhibition at the ACM SIGCHI 2015 conference in Seoul, South Korea

Workshop Organizers:

David England, Liverpool John Moores University, UK
Linda Candy, University of Technology, Sydney, Australia
Celine Latulipe, University of North Carolina at Charlotte, USA
Thecla Schiphorst, Simon Fraser University, Canada
Ernest Edmonds, University of Technology, Sydney, Australia, and De Montfort University UK
Younghui Kim, Hongik University, South Korea / USA
Sean Clark, De Montfort University, UK
Adruid Kerne, Texas A&M University, USA

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Catalog Design: Stephanie Grace

About Art.CHI

Digital Art has a long history, going back to the first stirrings of interactive computing and even before that to the procedural and algorithmic constructions of the Dadaists and Situationists of early twentieth century art movements. It is, however, a relative newcomer to the ACM family; beginning with the Creativity and Cognition series of conferences, before becoming mainstream via the various forums of Communities and Spotlights at CHI2013 and CHI2014. CHI2015 in Seoul sees the first digital art catalog illustrating the Art.CHI workshop and exhibition within the main conference.

A panel of people active in the ACM Digital Arts world has selected the art works described in this catalog, comprising:

- Ernest Edmonds (chair)
- Linda Candy
- Andruid Kerne
- Sean Clark
- Robert Devcic
- David England
- Beryl Graham
- Nick Bryan-Kinns
- Younghui Kim
- Deborah Turnbull Tillman
- Thecla Schiphorst

Art works were chosen that were novel, thought-provoking, evocative, sensorially rich, interactive art experiences. The chief criteria are:

Originality and Novelty: work that is highly original, creative and imaginative. It should exemplify novel concepts in surprising and challenging ways that add something to what exists already.

Aesthetics: the work should have a strong aesthetic element and communicate effectively through form, function, behavior and emotion. Aesthetically interesting qualities include features that are pleasing and exciting as well as provocative.

Realization: the work must have a tangible aspect, in the form of an installation, object or art piece that can be included at a reasonable cost. It should be built and executed to a high standard suitable to be exhibited at CHI 2015.

Value: The proposed work has the potential to open doors to new ways of thinking about interaction, evaluation and aesthetics both in HCI and the Interactive Arts.

Participant Engagement: the work encourages, enables or provokes active engagement through interactivity and participation by using forms of interaction that may provide:

- ***Immediacy:*** the work attracts attention and yet is not so mundane as to create boredom. It has a 'wow' factor to attract attention but then goes on to engage more interest.
- ***Sustainability:*** the work excites curiosity and extended interaction and draws the participant user back repeatedly
- ***Accessibility:*** the work is easily accessible for a general public audience and encourages interaction with it in a playful/purposeful way.

- ***Novelty:*** the work introduces new ways of thinking about familiar interactive experiences.
- ***Conceptual:*** the work provokes thought about the roles of technology and society. Examples of conceptual directions include valuable potentials for new forms and critique of present and emerging forms.

We hope this catalog and the exhibition at CHI2015 will be the first in a long series at future ACM SIGCHI conferences.

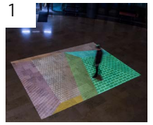
David England, on behalf of the Art.CHI panel
Liverpool, UK 2015

Eur Ing Dr David England B.Sc, M.Sc, Phd
Associate Director of School
Head of Software Systems
http://lister.cms.livjm.ac.uk/homepage/staff/cmsdengl/

Acknowledgements

The panel and workshop organizers acknowledge the support of the ACM SIGCHI Executive in allowing the workshop to take place. We thank the CHI2015 conference chairs and CHI2015 workshop chairs for their support. Production of the catalog is supported by the Department of Software and Information Systems at the University of North Carolina at Charlotte, USA. We would like to thank Stephanie Grace for her work in prototyping and then designing the print catalog. We would like to also thank Sean Clark for his work on the accompanying website http://www.art-chi.org, which is supported by the Institute of Creative Technologies at De Montfort University, Leicester, UK. David England acknowledges the support of Liverpool John Moores University and the British Korean Society for his attendance at CHI2015.

Art.CHI 2015 Interactive Media Works

1 

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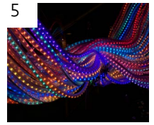
5 

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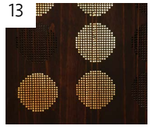
13 

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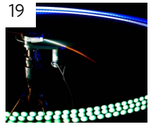
19 

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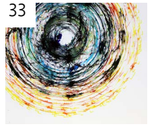
33 

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Fifteen points (XV)

Fifteen points (XV) defines the role of cognitive dissonance in diverse reactive spaces. In an interactive floor projection, viewers are encouraged to move throughout the space and engage in the manipulation of the art piece. Detecting both sound and body of the participant, the 3D shapes and textures within the installation bend and distort to the interference accordingly. When a presence is no longer sensed, the shapes are autonomously restored with a burst of energy to their original state, while a generative synth soundscape orchestrates the entire experience.

By immersing the viewer in a full body experience of shifting compositions bred by human motion, this piece projects many diverse, retinal interpretations of space. *XV* challenges the senses and plays a crucial role as a generative system, giving insight to the prospect of inaccurate visual assumptions that can drive us to understand new possibilities. A piece with pleasing aesthetics, carefully planned architecture, algorithmically defined behaviors, and the ability to regenerate from destructive energy, the work serves as a fusion point of art, design, mathematics and technology.

► ***Fifteen points (XV)* defines the configuration of diverse reactive spaces. The body-sensitive experience can be described as a shifting architecture, delineated by mathematically arranged quadrilaterals and textures that display ambiguous perspectives. Photograph of the installation at the Indianapolis Museum of Art.**

Esteban Garcia Bravo

Assistant Professor of Computer Graphics Technology, Purdue University

Inspired both by constructivist avant-gardes and cognitive psychology, Garcia uses shape to test the senses and push the boundaries of visual assumptions. His work looks past the idea of shape as a function and instead explores its endless possibilities as an aesthetic form. His artistic endeavors include coding and fabrication of automated sculptures, interactive graphics and video installations.

Jorge Garcia Galicia

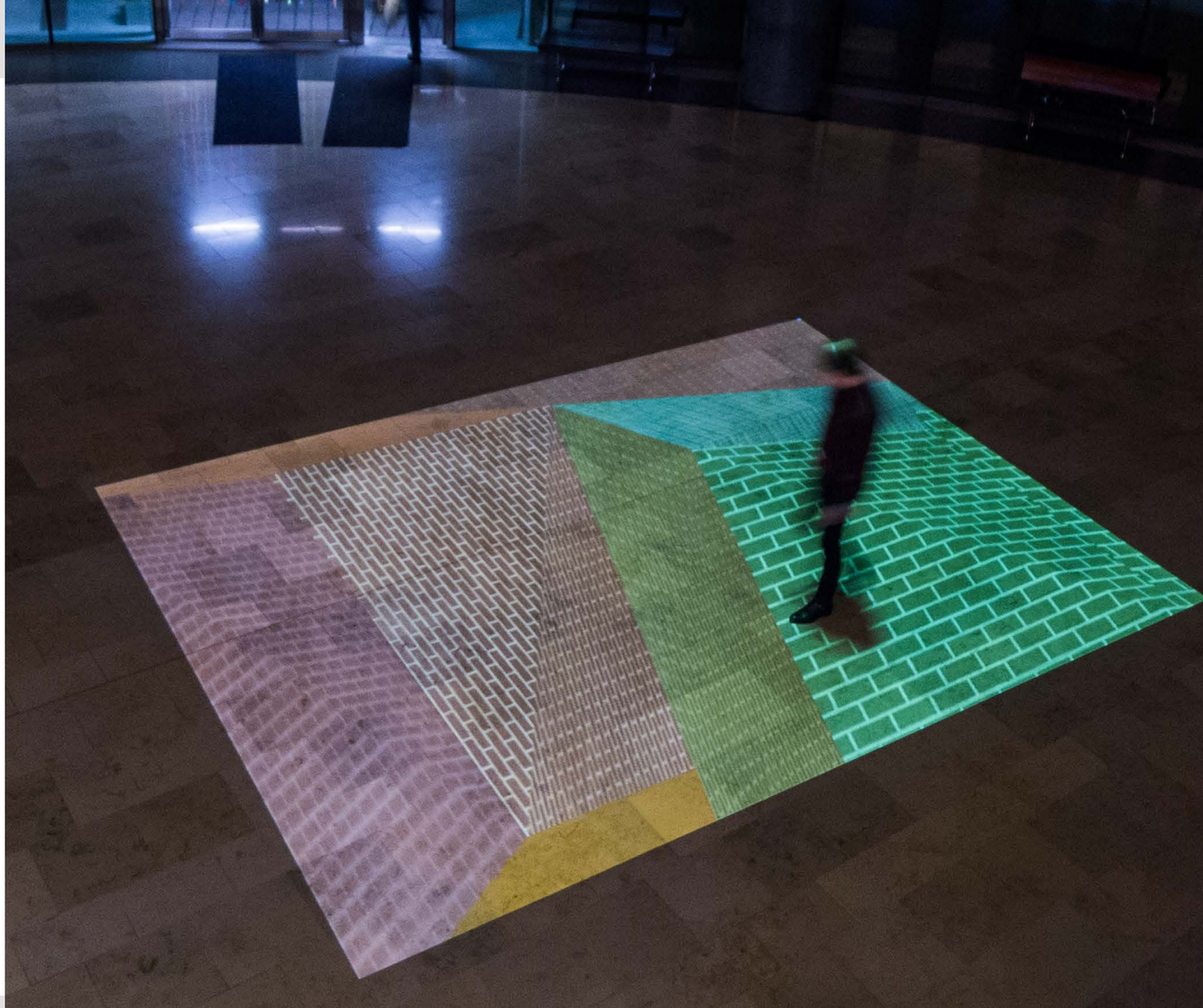
PhD candidate, Department of Computer Graphics, Purdue University

Jorge is interested in procedural modeling and any interaction between mathematics, algorithms and art. His field of study is geometry processing and digital image processing. He also has experience in live coding, and creative coding in general.

Aaron Zernack

Castle Bravo Tapes

Aaron produces experimental electronic music and sound under various project names. He is also the head of Castle Bravo Tapes, a label dedicated to the dissemination of avant-garde and deconstructed electronic music genres. He is currently using analog and digital modular synthesizers to unite sound and music through control voltage.



Understanding The Human Object:

if you prick us, do we not bleed?

This work is part of a larger research project, ***understanding the human object***, in which various sub-projects will come together to question the idea of creating a working consensus between different disciplines and people. This particular strand, 'if you prick us, do we not bleed?' (Shakespeare, 1826) intends to focus on the rhetoric within scientific modeling of humanoid objects and how the production of these visuals can alter emotional responses and behaviors.

Based on ideas within the historical representation of scientific imagery, the sculptures created are intentionally provocative, in order to replicate the themes and ideals found within this type of image production. These objects will act as tools to form a greater understanding of sympathy and guilt towards non-human objects, as well as questioning our perception of what might be considered more 'human.' This can give us an indication of how realism can alter our perception of humanoid objects.

By looking at aspirations in the portrayal of 'the human being' alongside the reality of bodily function, the models will bring together societal wants and desires alongside their counterpart horrors and disgusts: a test to see if they return a haptic and emotional response that conflates these opposing sentiments. The aim is to leave the audience with a greater understanding of the potential affects of the production and treatment of integrated societal technologies such as humanoid robots.

► **"Blood Test"**

Agi Haines

CogNovo PhD research fellow, Plymouth University, UK

Agi trained as a speculative designer in the Design Interactions department at the Royal College of Art. The focus of her work is the design of the human body: How might people respond to the possibilities of our body as another everyday material and how far can we push our malleable bodies while still being accepted by society?

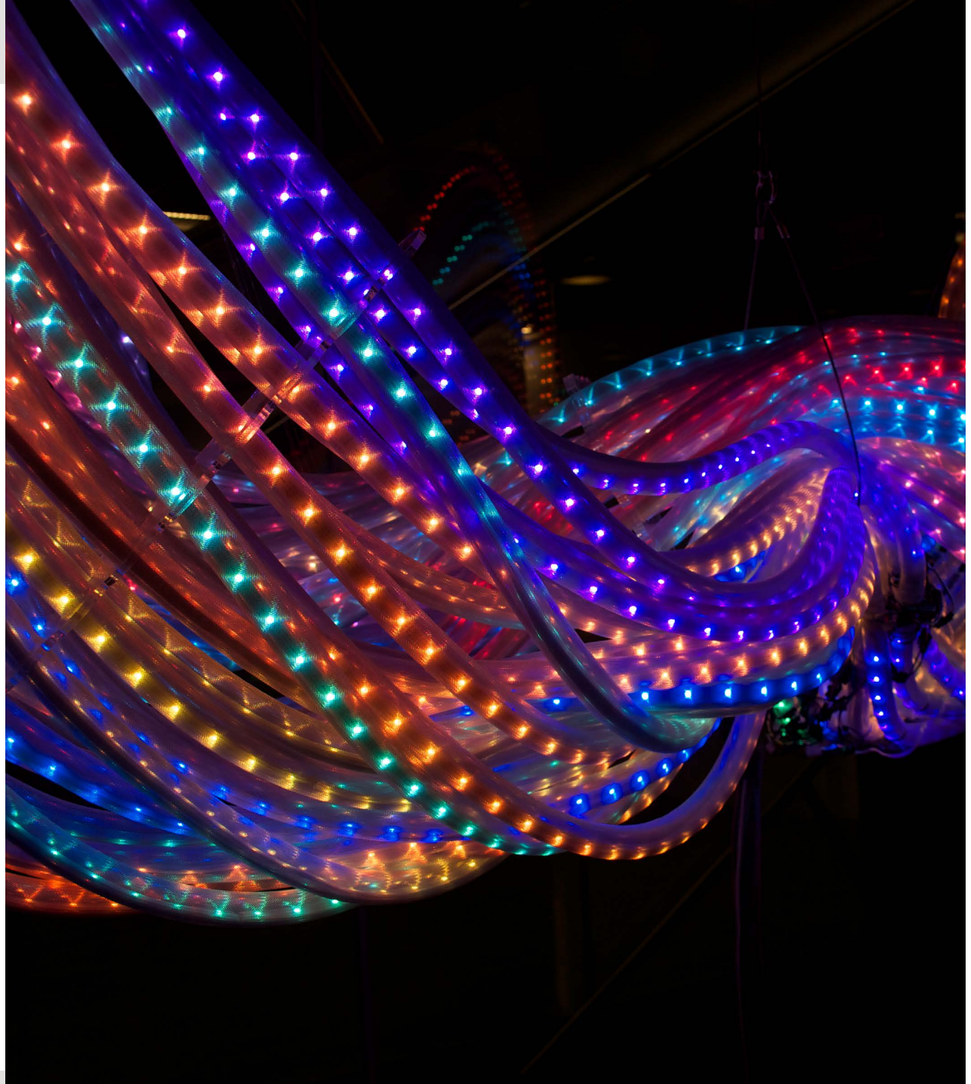
mood.cloud:

Data as Art

The project, ***mood.cloud*** is an exploratory artistic display of data as art. Emotional status is something that forms and passes like a cloud in the air. What if an installation can hold and collect individual emotional statuses and displays how we all feel together in the same space? Will collective emotional awareness influence individual moods and vice versa?

For creating a certain mood, people often use lighting effects and colorful lights. When used on a large scale like with ***mood.cloud***, lights are somewhat emotionally overwhelming and powerfully expressive. This project visualizes emotional status of people in twenty-four strings of LED lights: the bottom LED string refreshes to the color corresponding to the most recent input and it moves up as more updates occur afterward. Through this representation, one can reflect on the collective emotional status of the people in that space in a timely manner.

► ***mood.cloud*** **light art piece installed in the Gates Hall Lobby, Cornell University, 2014.**



Younghui Kim
Hongik University, Sejong, South Korea
Younghui is a media artist who finds inspiration from everyday things or reactions she observes in different cultures. For over a decade she has been exploring the field of new media art, including wearable technology, combining physical computing technology with soft textile design.

Lindsay Reynolds
Cornell University, New York, USA
Lindsay is a post-doctoral researcher in the Interaction Design Lab at Cornell University. Her work explores technologies for mental and physical well-being.

Geri Gay
Cornell University, New York, USA
Geri is a professor in Information Science and the director of the Interaction Design Lab at Cornell. Her research focuses on social and technical issues in the design and application of interactive communication technologies.

Hyuns Hong
Hongik University, Sejong, South Korea
Hyuns is an artist. Using computer science and electronics as artistic methods, Hyuns is currently pursuing an extended study of relations between lives and machines.

The Multiple Lives of Walter B

A Biographical Exploration

Walter Benjamin is one of the most intriguing characters of the 20th century. His lasting contribution to art and media theory, his lucid essays, his published exchanges with contemporary intellectuals like Adorno, Kracauer, and others, are enough to make Benjamin interesting. However, his life story is also full of excitement and mystery, from his university days to the tragic suicide that is still surrounded by unanswered questions to this day. The project uses this material for an interactive exploration of decisions and consequences, while simultaneously exploring Benjamin's era and contemporaries.

The work allows participants to explore how a number of interrelated decisions change a character's biography. The participants engage with the piece by physically interacting with objects and locations. Inspired by motives from the life of media theorist and philosopher Walter Benjamin (1892-1940), the work is simultaneously an exploration of history.

► Visualization of the physical installation. It features a number of small objects, a suitcase, a map drawn on the floor, and a projector.

Hartmut Koenitz

Assistant Professor, University of Georgia

Hartmut's research interests are at the intersection of art, society and technology, with a focus on new forms of narrative expression in video games and other digitally mediated forms as well as serious games and physical computing. His artistic work is a critical technical practice, which allows him to explore how to present choices to an audience as participants and allow them to explore different the consequences through replay.

Tomorrow

People sometimes understand time and space through light and its reflection.
Everything we recognize as
a present moment is actually mixed traces of lots of separated reflections. When we look at the stars, we might experience and understand these concepts in the same way.
The stars that we are looking at are actually lights that left their origins
a long time ago. They are from far back in the past
but, in this very present moment, they are still twinkling. What if a mirror does that?
The lights reflected from us wander around the cosmos. What if we encounter them again unexpectedly?
Our project starts from those questions.

The project ***Tomorrow*** is about making a mirror that reflects yesterday. Inside this huge digital mirror we encounter many beings that existed — who stared into this mirror? If there are people who pass this place every day they might meet their reflections from yesterday and they might think to themselves, "How would this reflection be changed tomorrow?" The past, present, and future is on the same line. ***Tomorrow*** shows this mixed time and space inside the definition of the present.

► **When encountering the project *Tomorrow* the visions of people who passed by the same place yesterday is reflected.**

Kwanwoo(Kw.anu) Park

Freelance Artist & UX Research Consultant/ Designer of Samsung Leeum Museum

Kwanwoo is an artist who creates installation artworks using various kinds of media. His works focus on his unconscious memories and questions that surround perceiving different kinds of dimensions.

Kyea-Min Jeon

Senior Student, Majoring at Digital Media Design, Hongik University, Korea

Kyea-Min's artworks range from videos, media and installations, which focus on asking the question: how do people able to live together?

Hooray:

Performative Interaction

Hooray is a collaborative work between Hye Yeon Nam and Yaesuk Jeong. Participants initiate with the installation *Hooray* by standing before it and casting a shadow. Participants' shadows activate light sensors, which in turn activate motors that cause the installation's figures to bow. As a result, when participants approach the work, all of the figures individually bow. The goal of the experiment is to observe the transition in which physical bodies and digital sensors reconstruct an exhibition space into an active environment that encourages engagement. To encourage engagement the reconfigured space requires participants to use their bodies to become involved in the interaction. Installed on a wall, the interface of *Hooray* prompts participants to move their bodies in vertical and horizontal directions. In all cases, whether participants know or do not know the instructions for how to interact with *Hooray*, it is intuitively activated by the presence and movements of participants.

► ***Hooray* installation. *Hooray* was exhibited at Telfair Museum and Linda Matney Gallery, United States in 2013 and OCI Museum, South Korea in 2014.**

Hye Yeon Nam

Assistant Professor, Digital Arts
Louisiana State University

Hye Yeon Nam is a digital media artist working on interactive installations and performance video. She foregrounds the complexity of social relationships by making the familiar strange, and interpreting everyday behaviors in performative ways.

RGB Color Bits

RGB Color Bits is an animated RGB LED panel which represents a mutual understanding of recognition between analog colors and 8 bit color data of a machine. We humans are surrounded by digital displays in this era and the high resolution of a digital display technology is blurring the lines between the real and the virtual world.

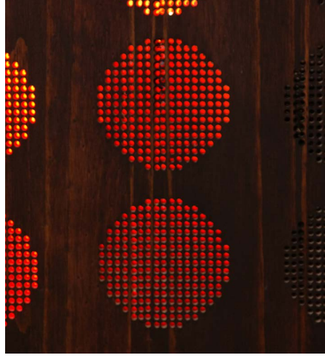
Images that we've seen though the digital displays look almost real but they are obviously composed of different elements, being composed of code and data. For example, the true red color through the digital displays and colored paper could have the same appearance but the inside elements are totally different. *RGB Color Bit* tries to show the constituents of digital color by physical RGB LEDs and 8 bit dots punched out of a wooden panel.

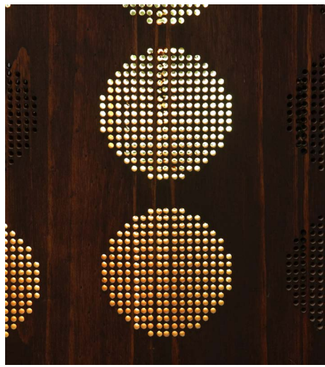
► All colors that can be represented with 24-bit RGB color data are animated with each color code. The installation represents how digital colors are constituted by geometrical aesthetic.

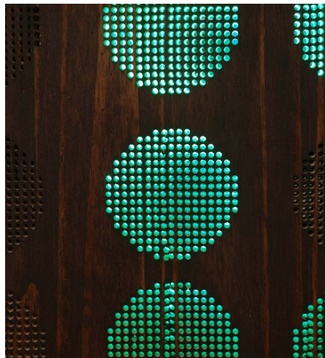
Sanghwa Hong

Founder and artist, RECT2ELLIPSE, South Korea

Sanghwa's work is based on reinterpreting the ordinary. The ordinary has some good that makes our lives better but it's also usually seen as less valuable. Using technology, physical computing and engineering he creates objects that, on one hand can be seen as ordinary, but which also gives us a glimmer of goodness.







Visual Liquidizer or Virtual Merge

Each individual person is an entity physically separated from the others, but we sometimes feel spiritual connection with lovers, friends, family members, and so on. As closer physical contacts cause the deeper connections, it is possible to imagine that it would be more effective if we could physically mix our melting bodies with the bodies of the others. Human relations are one of the most important aspects to measure happiness of people. It is somewhat difficult but might be ideal if we could have peaceful relations with as many persons as possible, rather than conflict or separation.

In this work, *Visual Liquidizer or Virtual Merge*, deformed dynamic images of visitors are displayed as if their bodies become liquidized, scattered, and mixed. In doing so, the authors are hoping to provide a virtual experience of deeper contact with the other persons — people merge with each other more, not only in a private relation like lovers, but also with people from difference cultural backgrounds.

► The dynamic moving image rendered when two visitors each come to the opposite sides of the screen. The images of their bodies start scattering and mixing before gradually returning back to their normal figures.

Tatsuo Unemi

Department of Information Systems Science, Soka University

Tatsuo has been working in the fields of Artificial Intelligence and Artificial Life since graduating from the Department of Control Engineering, Tokyo Institute of Technology in 1978. His current research interests include software applications derived from Artificial Life, which look at art, sociology, and the field of humanities.

Daniel Bisig

Institute for Computer Music and Sound Technology, Zurich University of the Arts

Daniel's research areas have spanned art and design, computer music and sound technology. Since 1996 he has been active as an artist in the fields of computer animation, experimental video and software art.

daddylabyrinth:

Exploring the Possibilities of Interactive Nonfiction

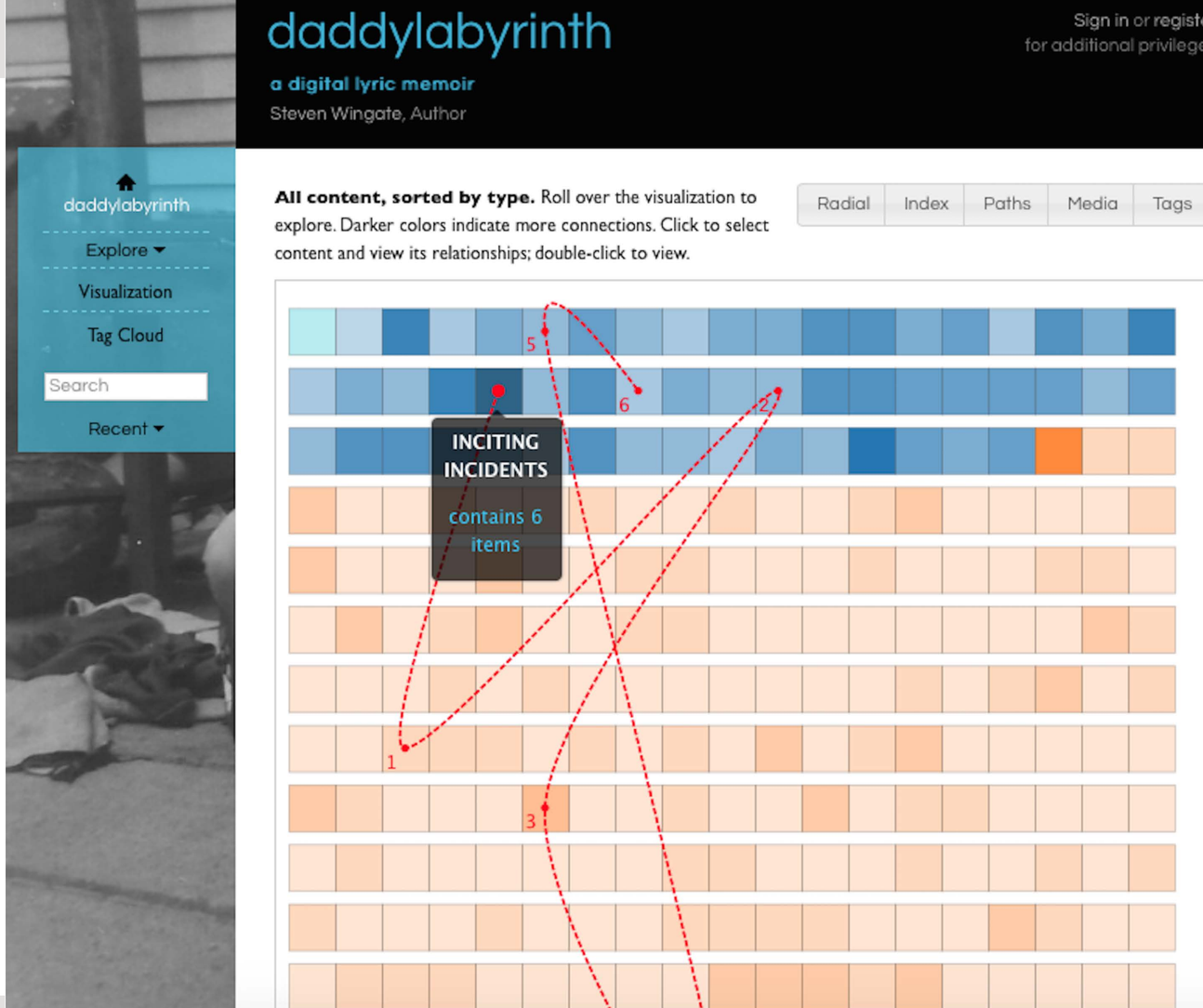
daddylabyrinth embodies the "Crossings" theme of CHI 2015 in that it represents a crossing over from one type of non-fiction book to another. In monolinear nonfiction (whether in print or electronic form), the reader follows a predetermined course through a single story. In the digitally enabled book that is now emerging, the reader/user navigates through a narrative environment in which multiple interlocking stories are possible, participating interactively in the shaping of the work. With hundreds of pages (many including video) and dozens of paths-within-paths, *daddylabyrinth* enables a co-creative literary experience that the monolinear nonfiction book cannot offer—and along with it, multiple opportunities for the reader/user to create meaning through the combination and collision of multiple narrative building blocks.

In presenting *daddylabyrinth* Wingate proposes that the next generation of the nonfiction book will emphasize polylinearity [1] and navigational readership in this way, focusing the audience's attention on the connections between narrative elements rather than on a single linear outcome. It presents one vision of what the nonfiction book may become during its "crossing over" into the digital, and its use of an authoring tool not principally intended for creative work indicates the possibilities that authoring tools represent in shaping the future of the book. The expanded nonfiction book will become a place one visits and re-experiences, rather than a pre-ordered set of sentences one simply starts and finishes reading.

[1] *Rosenberg, Jim. "Navigating Nowhere/Hypertext Inframare" http://www.well.com/user/jer/ NNHI.html.*

► **The interactive web-based digital-native memoir, *daddylabyrinth*. The full work is available at www.daddylabyrinth.com under a Creative Commons license.**

Steven Wingate
Department of English,
South Dakota State University
Steven comes to interactive narrative from literature, film, and the experimental traditions of both. Because of this twin background Steven has always been invested in hybrid genre work, and his output leans heavily in this direction.



Psychophysics machines

Psychophysics machines is a sound installation made from four acoustic physics manipulating robots. Using sound focusing (parametric speakers/sound lasers), reflection and Anti Doppler shifts, *Psychophysics machines* disrupts the auditory perceptual engine to create an environment of sound that normally is not possible to hear in nature. Motion of the audience merges with the motion of the robots as they move, turning the piece into part machine part human mesmeric flow performance.

The influence of the body and concept of the lens (the idea of flow or motion with the body through space) is fused together with the idea of psychology and physics in which the robots can be thought of as a physician performing a test or administering musical medication which is reflected in the name of each robot.

Capturing the essence of the experience is particularly difficult. Perhaps a few quotes from what people have said after hearing the works over the last year can best describe this.

"Wow, I never thought it was possible to experience sound in this way"

"It's like 3D cinema for the ears"

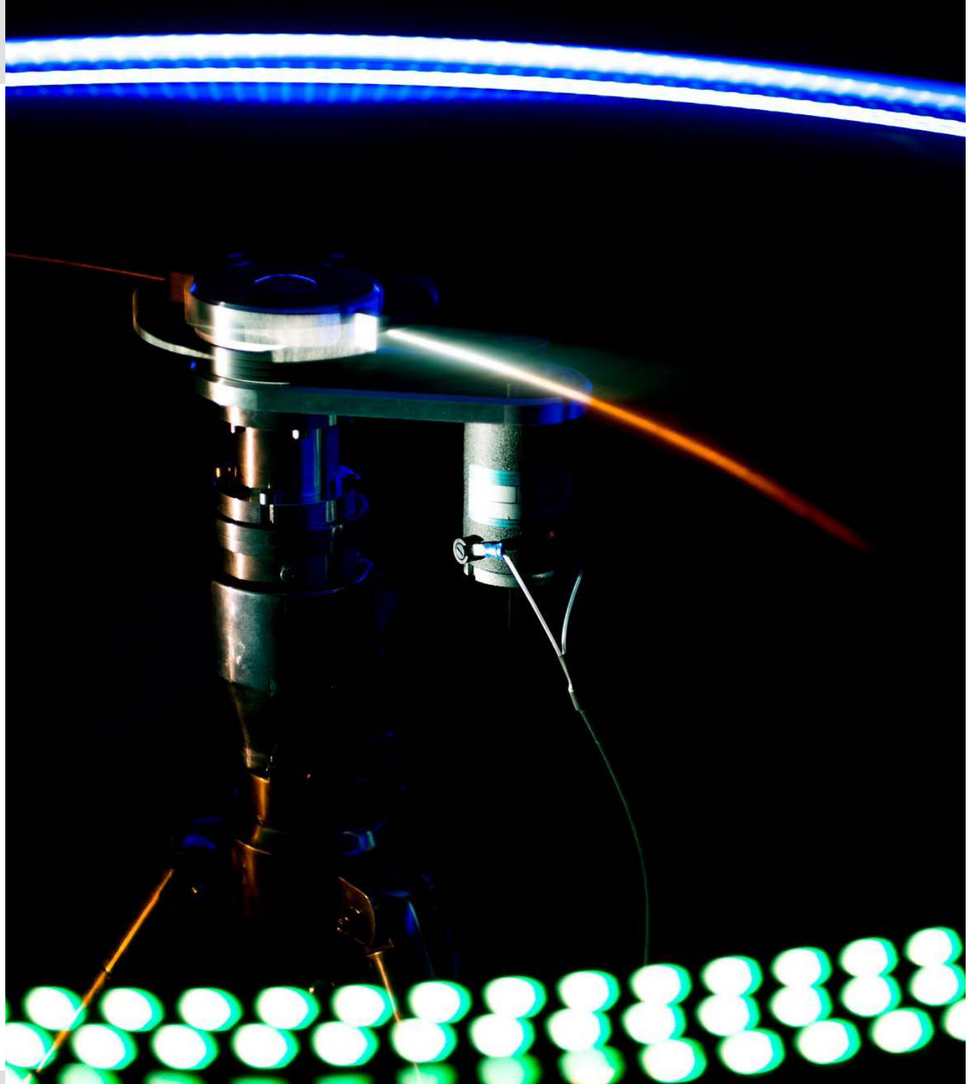
"The way the sound moves seems somehow impossible"

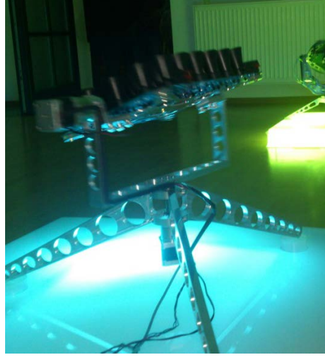
► [Left + Bottom] Robot 3: Dr Doppler explores spatialization effects using the Doppler Effect · [Top] Robot 1: The Curious Tautophone · [Middle] Robot 2: "Multiplexing Tautophone" a multiplexing Sound Lens Robot

Adam Donovan

Hybrid media artist, Vienna

Adam is a hybrid media artist working in the area of science, art, music and technology. His artwork incorporates Nonlinear Acoustics, Robotic sculpture, Game Engine Environments and camera tracking to name a few. Donovan's work is inspired by the intangible aspects of physics we experience every day. He explores these phenomena amplifying their effects to create new mediums and experiences.





Crosstalk:

Making People in Interactive Spaces

Crosstalk is a performance work involving speech, movement and the body. Two dancers' movement and speech are re-mediated within an augmented environment employing real-time motion tracking, voice recognition, interpretative and generative language systems, 3D projection and granular audio synthesis. The acquired speech, a description of an imagined dance, is re-written through projected digital display and sound synthesis, the performers causing texts to interact and recombine with one another through their subsequent compositional arrangement. What is written is affected by the dance whilst the emerging recombinant descriptions determine what is danced. The work questions and seeks insight into the relations between kinesthetic experience, memory, agency and language.

Crosstalk was developed while the artists were in residence at the Bundanon Trust, New South Wales, in 2013, and at the Art Museum of Arizona State University, in 2014.

► Still from the performance at the Arizona State University Art Museum, Tempe, USA, 2014 (with Angel Crissman).

Simon Biggs

Visual Artist and Professor of Art, University of South Australia

Simon is a media artist, writer and curator with interests in digital poetics, interactive environments, interdisciplinary research and co-creation.

Sue Hawksley

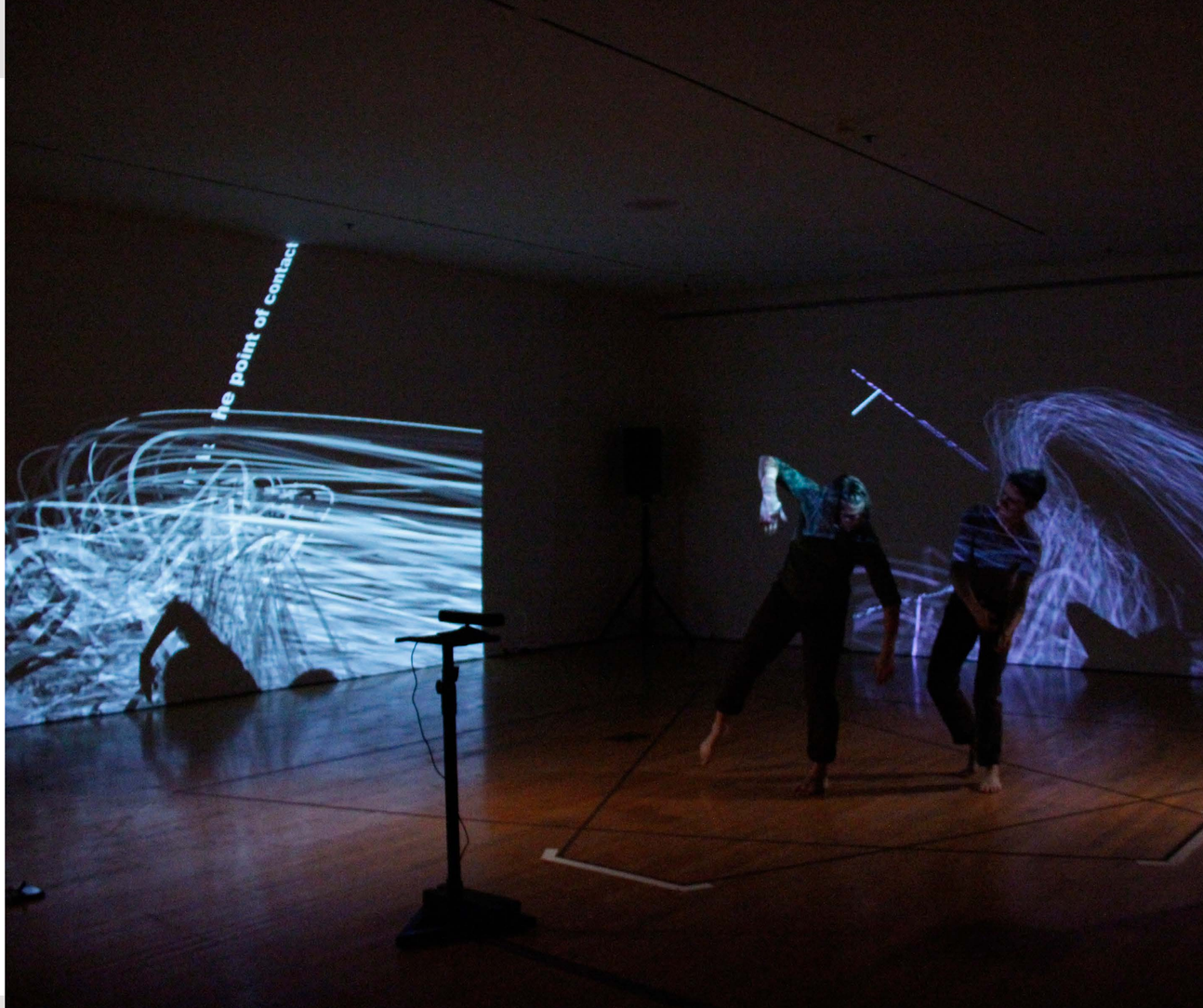
Choreographer and Performer Researcher at Adelaide, South Australia

Sue is a dance artist, bodywork therapist and artistic director of articulate animal, an interdisciplinary performance company which undertakes collaborative projects focused upon movement, identity and territory. Her research critically examines concepts of embodiment through choreographic and somatic practices, philosophy, and mediation.

Garth Paine

Composer and Associate Professor, Arizona State University

Garth Paine is particularly fascinated with sound as an exhibitable object where the listener can spend time with the sonic artefact so that they feel truly present.



CopyCut:

The World is Your Palette

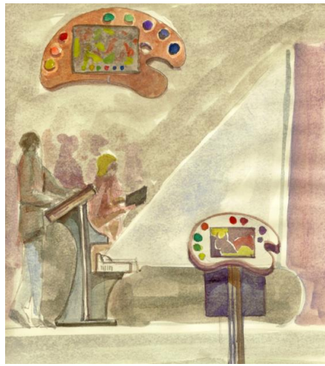
CopyCut is an interactive exhibit that supports artistic creation through a very simple, easy to learn and employ, interaction approach that yields highly impressive and expressive results. The artistic approach builds upon the mixed media technique of collage, further extending its capabilities and mechanics by taking advantage of the means offered by the digital medium. When *CopyCut* is used in combination with a projection system and surface, it becomes a digital mixed media graffiti platform that can also support live creative performances, by a single or even multiple, co-creating, artists.

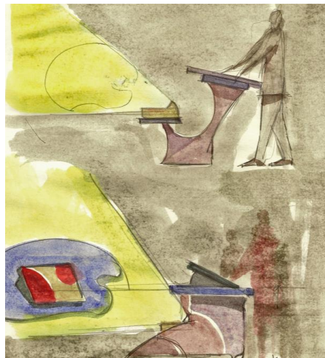
► [Left] A composition created using *CopyCut* after 5 minutes · [Top] Layer manipulation menu · [Middle + Bottom] Preliminary conceptual drawing of the *CopyCut* installation piece.

Dimitris Grammenos

Principal Researcher, Institute of Computer Science, FORTH, Greece

Dimitris is interested in exploring novel approaches for technology-enhanced collaborative artistic expression. As an interaction designer, he has a strong focus on shaping creative experiences which are open and accessible to anyone, irrespective of their artistic or technological background.





CONTROL:

An Experimental (Meta) Game About Interface Constraints

CONTROL is an art game experience that intends to provoke discussion and reflection on the limitations of the physical interface and the nature of the human computer symbiosis in videogaming as mediated through the manual game controller. It echoes the hand to controller aspect of the videogame interface in the diegetic space of the visual interface through a downsampled meta interface. *CONTROL* makes the game interface the constant point of focus, rather than have it disappear to make way for an unrelated feedback visual. This goes against the notion of the ideal of interface design where an interface should be so intuitive that it for all intents and purposes disappears.

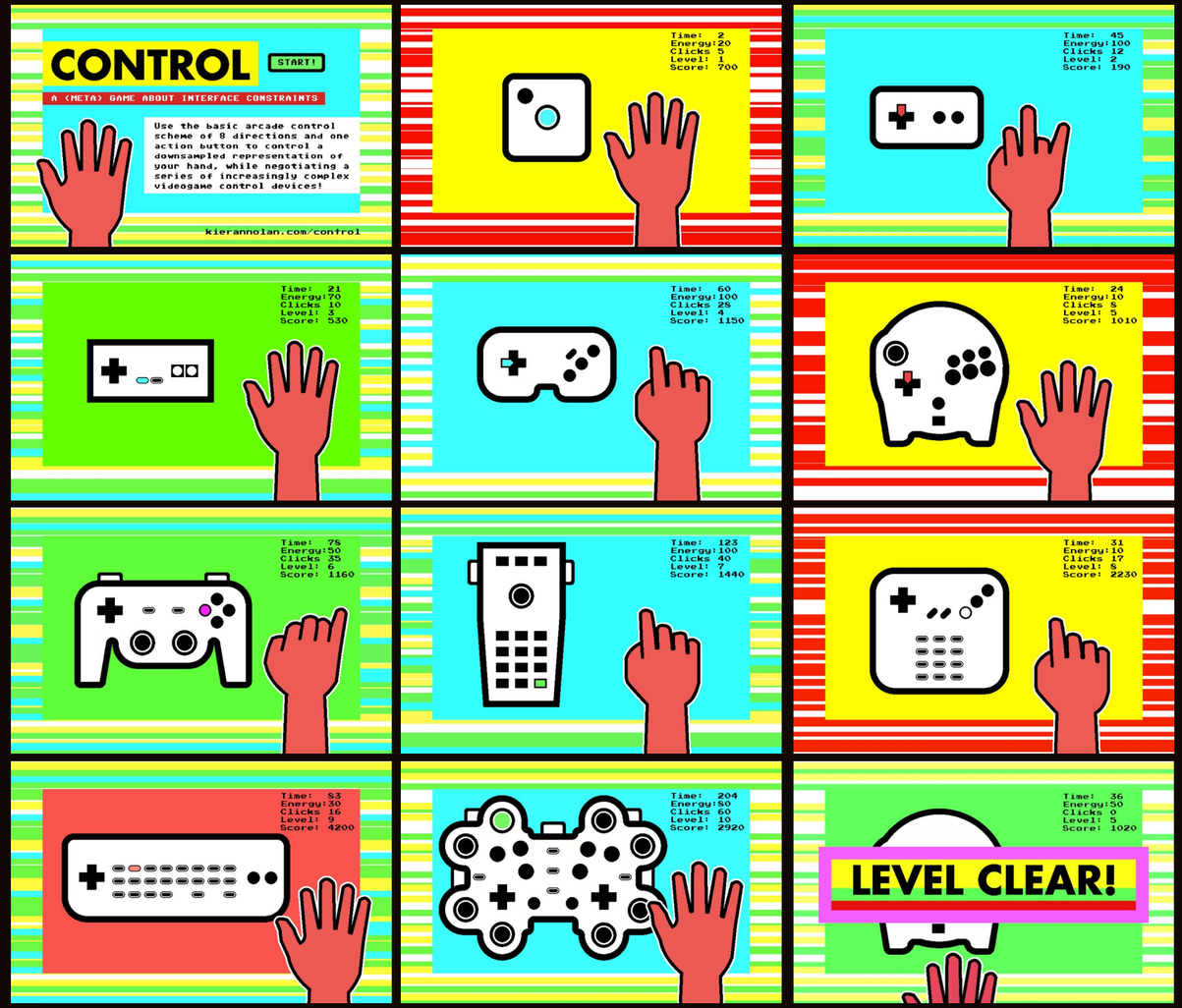
In *CONTROL* the visual interface will not let you forget that you are manually interfacing with the computer through a hand to controller link. By using a low fidelity reproduction of the hand in the playfield, both visually and in terms of the available control scheme, the game reflects the resolution divide between the analog and digital worlds. In addition to the challenge provided, the increasing button count of the onscreen game controllers is intended to reflect the evolution of game input devices.

► **In *CONTROL* the player negotiates a series of increasingly complex videogame control devices through a downsampled representation of their hand and using the basic arcade control scheme of 8 directions and 1 action button.**

Kieran Nolan

PhD Candidate, CV2 Research Group, Lloyd Institute, Trinity College

Kieran is a lecturer, artist-researcher, designer and educationalist. His PhD research explores the collision of arcade video game aesthetics, new media art, and has numerous publications and exhibitions in experimental interaction design, indie game development, and multimedia teaching.



Augmented Street Art:

Street Art Performance With Interactive Projection And Responsive Music

Creating public art with digital media in public places is an emerging form of both artistic and participatory expression, either temporally or permanently.

Nam and Hutchings consider the fusion of digital media, street art performance and participation as a transformative tool for socially engaging with audiences and enabling interactive experiences in urban environments that extend on the normal physical reactions people have there. *Augmented Street Art* is an approach for new media participatory public art promoting co-creativity between artists, audience controlled interactive projection and responsive music in urban street environments. It is designed to acknowledge and promote a diversified concept of street art and further specify how digital media can promote the concept of new media participatory public art.

The systems work together in an innovative fusion for experiencing the public space and temporal components of art. Through enabling augmented, enriched and interactive multi-sensory experiences, the system aims to inspire both the artistic process and the participants' interactions in and with public spaces. More importantly, *Augmented Street* Art celebrates and empowers both the artists and the participants to transform the urban street environment through aesthetic, unexpected and playful expressions.

▶ The *Augmented Street Art* project — it is comprised of two systems (Interactive Projection and Responsive Music) for superimposing audience controlled digital artistic content on the environment and generating music that responds to the artwork and environmental changes in real-time.

Yun Tae Nam

PhD candidate in Design, Monash University

Yun Tae's interest lies primarily in multimedia design dealing with nature, human experience and technology for interactive installations.

Patrick Hutchings

PhD candidate in Design, Monash University

Patrick's main research interests are in generative and adaptive music models and he has worked on generative editing systems for film installations. Patrick published a recording of original music compositions in 2012 named City Festival.

‘Melt’, ‘Splinter’ and ‘Thread’

Sculptural Installations

Melt, *Splinter* and *Thread* are sculptural installations that evoke the notion of disintegrating structures, tracing a relationship between chaotic and geometric forms. Each work creates unfolding vistas of landscapes in motion from a vertical forest of forms in *Melt*, to the shattering structure of *Splinter* and the barely perceptible presence of *Thread*. Underlying these works is a consideration of contemplative spaces and an interest in engaging with the viewer’s innate understanding of form and movement.

The sense of connection between the audience and the work is a key element of Esther’s practice. She is curious about how to bring the individual into a sensory relationship with each piece. From the outset in these works there was an intention to utilize the subtle complexity of programming and emerging technologies whilst visually prioritizing the physical felt experience through the quality of form and materials.

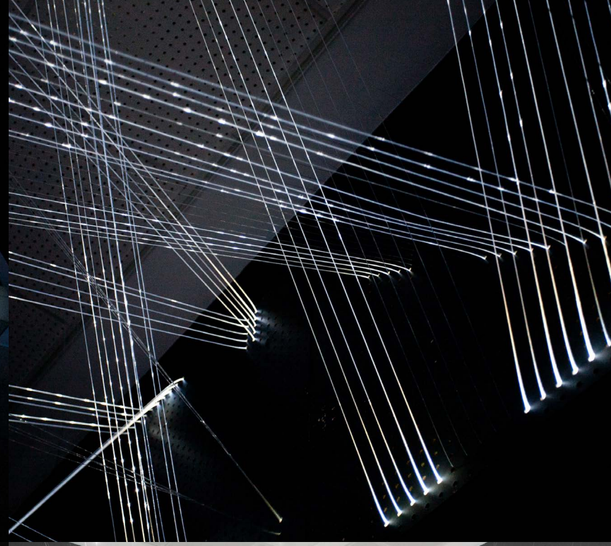
In setting out to achieve this Esther carried out extensive drawing and model making to evolve the work conceptually. The importance of drawing developed in her practice during this time. It inspired an approach of spontaneous making that she carried into model making and programming. Esther used drawn images as a way of understanding and exploring patterns of form and movement.

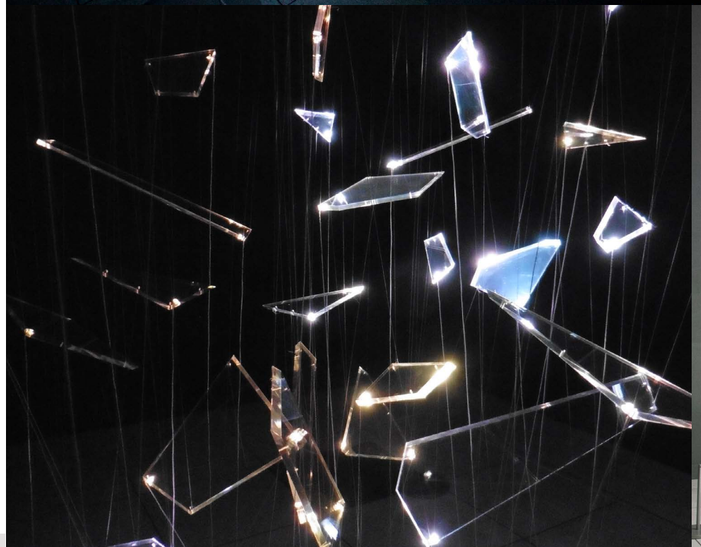
► [Top Left] *Melt2* Installation — a larger scale installation from the original *Melt* installation · [Top Right] *Thread* Installation · [Bottom] *Splinter* Installation.

Esther Rolinson

Visual Artist, Hastings, UK

Based in South East England Esther’s work explores the architectural applications of three-dimensional structures, animated light designs and digital technologies. Her focus lies in the idea of sensitizing environments.





Remnance of Form:

Interactive Narratives with Augmented Shadows

Remnance of Form is an interactive art installation comprising a series of vignettes designed to challenge our notion of reality through the manipulation of light and shadow. By fusing light, projection, and motion technologies, the shadow can now detach itself from its former role. This creates a new narrative that blurs the border between what's real and what's not.

The installation dynamically modulates and distorts the relationship between simple, mundane objects and their shadows. Through ambient augmentation of the shadows happening in the periphery of viewer's attention, we try to shift and extend the perceived nature of the objects. Through the presented vignettes, we examine the fundamental human perception of reality on one level while fostering a deeper connection between viewer and the object/shadow relationship.

▶ Tweaking our perception of reality by digitally augmenting shadows.

Sang-won Leigh

PhD Candidate, MIT Media Lab

Sang-won Leigh was a studio99 intern who currently studies at MIT Media Lab as a PhD student in the Fluid Interfaces Group under Pattie Maes. His passion lies in the intersection between the virtual and real, and much of his work focuses on bridging the gap between the two.

Ann Paradiso

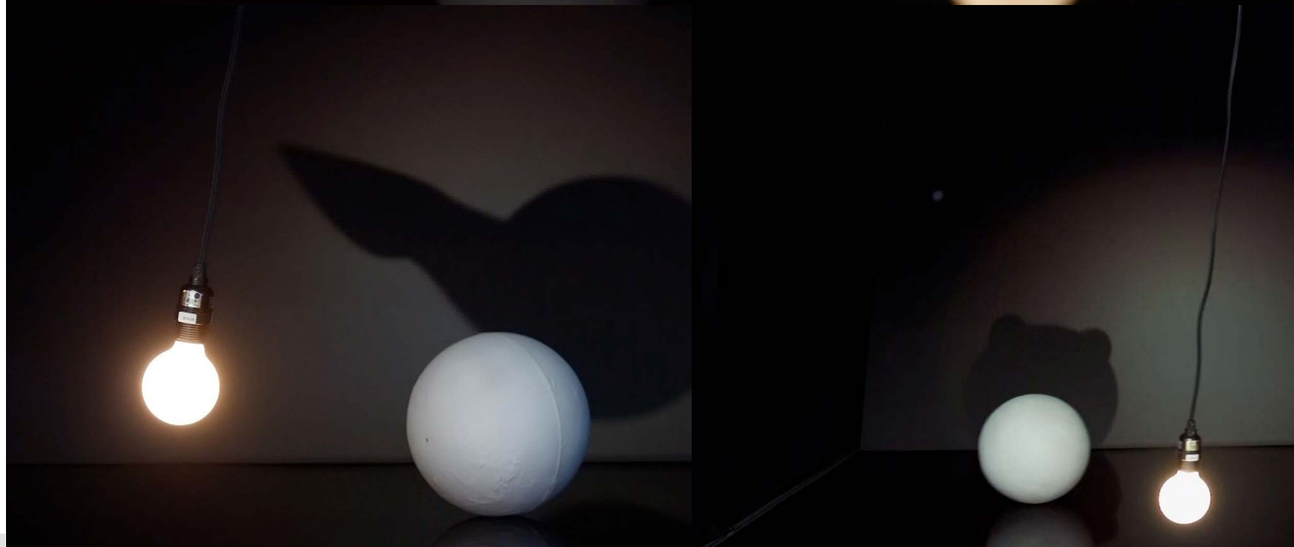
Interaction Designer, UX Manager, Microsoft Research

Ann's interests are in new interaction paradigms in assistive technology, including wearable, mindfulness-based interaction approaches for behavior modification and nervous system regulation, relationships between technology, music, mental health and quality of life for people with chronic and acute disability; scalable, cost-effective VR/AR-based platform for clinical treatment of anxiety spectrum disorders.

Asta Roseway

Microsoft Research

Asta's work at Microsoft Research focuses on Human Computing Interaction (HCI), Affective Computing, and wearable technologies. She is one of the co-founders of studio99, a Microsoft Research effort designed to bring Art and Technology practices closer together.



Metaphone:

Distinguishing Human and Machine

The *Metaphone* project rises from the convergence of body and machine, questioning the essentials of interaction between human and machine. The machine and participant interact in a close intertwined way, with the participant feeding the machine with biological signals. In turn the participant is strongly affected by mechanic interference. It is hard to describe who and what affects most, as *Metaphone* mixes all the participants' biological signal impulses into one evocative experience.

The project implies notions of affect and adaptation of an emotional world by machines and humans and vice versa, as well as how monotonic rhythms of the machine affect humans through their interactions with them. Sharing empathy between two opposite worlds, the project explores a manifold world and creates antagonistic dichotomies and one world within duality of human and machine.

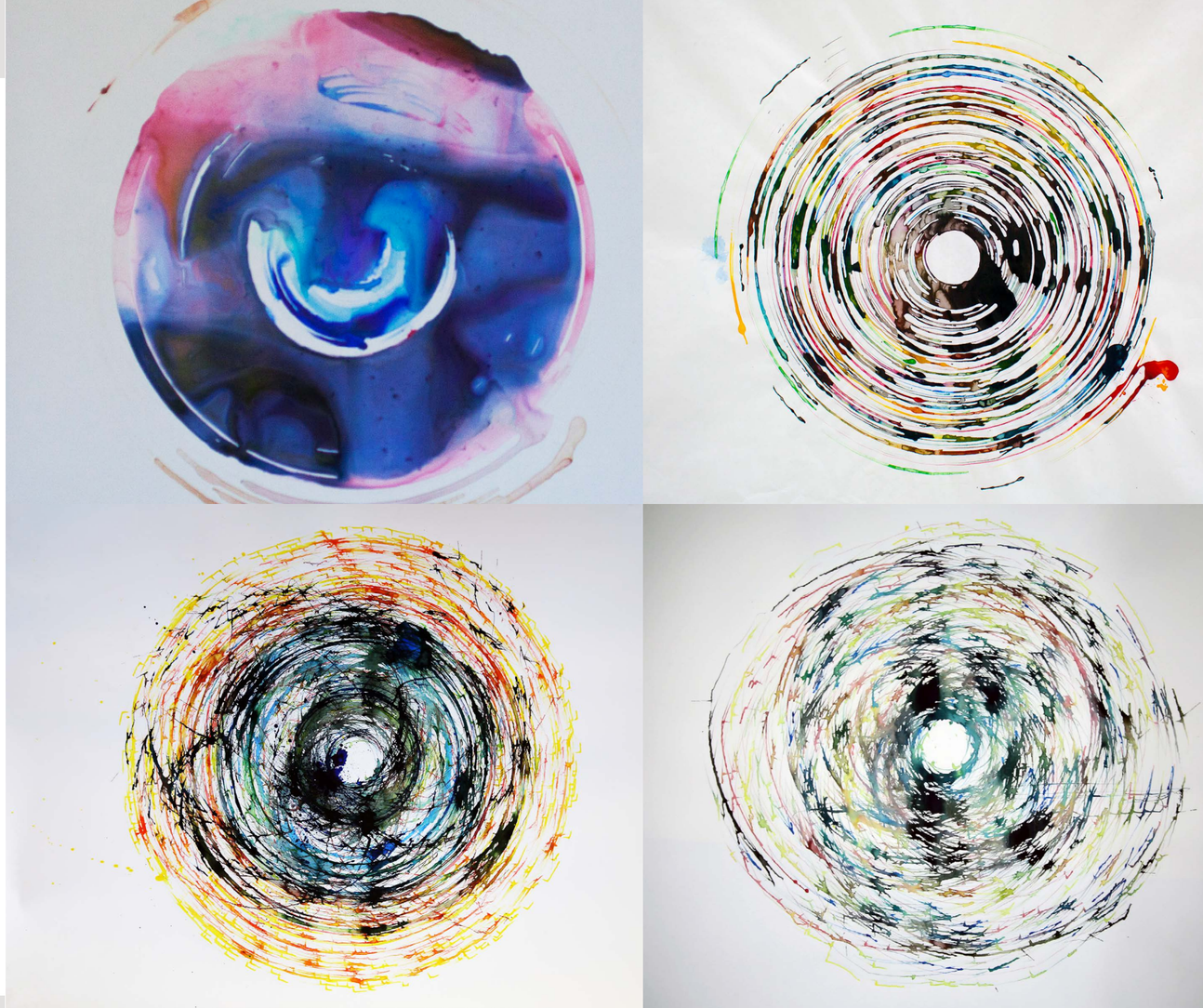
Metaphone and its creative process is inspired largely by three art history movements: Formalism, where the understanding of an artifact is shaped by formal elements; Constructivism, defined by the combination of both the function and form met together in harmony with no distinction; Futurism and industrialism where new modern aesthetics such as noise and chaos are established and have burned the bridges between nature and culture.

► **Patterns drawn on a large canvas by the *Metaphone* machine.**

Vygandas "Vegas" Šimbelis

Mobile Life @ KTH

Vegas is an artist and researcher who works interdisciplinary and combines various approaches in his artistic practice and research. His work is grounded within conceptual, interactive and media art paradigms, with a recent focus on technological aspects of new media, seeing his practice and research through the lens of authorship.



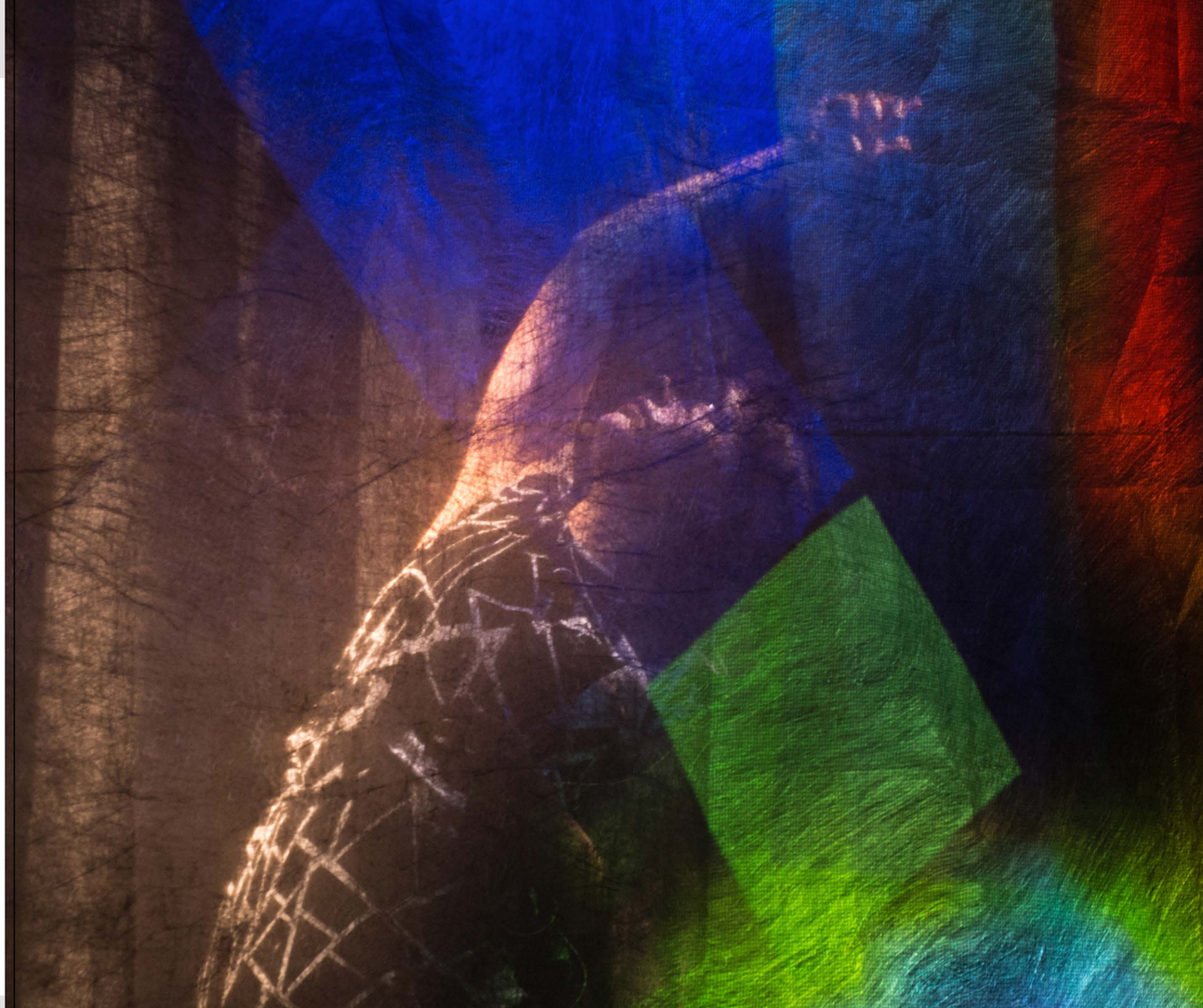
Bodyscapes:
Gestural Performance

Bodyscapes highlights the idiosyncrasies of our movement patterns, humanness and intuition, aiming to stimulate awareness of ingrained bodily habits. It encourages movement awareness through exploration and improvisation, and embraces the design of flexible and open gestural systems that offer access to alternative forms of musicianship.

The semi-improvised performance work was performed at a 2014 Sydney Fringe Festival season by a duo combining live and programmed electronic percussion with a movement-controlled instrument called the Telechord. The Telechord is a polyphonic version of the Theremin. The virtual instrument links the body's proportions and the ratios between the limbs, torso and surrounding space to generate virtual string sounds and intervals. Projected visuals amplify the performer's movements and depict the vibrations of each resonating string. Both the string metaphor and visual feedback are intended to nurture new forms of musicianship that encourage movement awareness. By highlighting the performer's relationship with their body, the performance addresses the sometimes fraught relationship many formally trained musicians have with their bodies. The movement explorations encouraged by the design reflect a desire for balance and a sense of self control and body mastery.

► ***Bodyscapes*** **performed at the 2014 Sydney Fringe Festival. Visual feedback represents receding traces of the body's trajectories in *Bodyscapes*.**

Mary Mainsbridge

PhD candidate, University of Technology, Sydney

Mary is interested in exploring the influence of gestural systems and sensing technologies on her own performance practice. Her performance background as a vocalist and pianist prompted her to pursue more dynamic and expressive performances with digital technology through gestural interaction.