

COLLISIONeleven*

MIT Stata Center Gallery

3rd Floor Balcony up stairs from Main Entrance
32 Vassar Street, Cambridge, MA 02139

Curated by Jonathan Bachrach and Dan Paluska

Exhibit: Apr 20 - May 1, 2007

Opening Reception: Saturday, Apr 21, 2007, 6.00pm-9.00pm

Introduction

The Collision Collective presents *COLLISIONeleven*, an experimental exploration of art and technology. Collision Eleven, the eleventh event in the Collision series, showcases art from artists from MIT and beyond who use new technologies in their work. Featuring: jonathan bachrach, rebecca baron, david bouchard, marcelo coelho, rob gonsalves, doug goodwin, eric gunther, steve helsing, shawn lawson, georgina lewis, jeff lieberman, henry kaufman, owen meyers, peggy nelson, dietmar offenhuber, roy pardi, amanda parkes, kim sinae, mark stock, fran trainor, and william tremblay.

In general, Collisions are a showcase of envelope-pushing artwork in an interactive workshop/laboratory format. The artwork often involves never before tried technologies, concepts and installation approaches. It is an opportunity for Collision colluders to experiment and show new ideas and techniques and to discuss their work with and gather feedback from the public.

Thanks to Brian Knep for his production assistance.

Exhibits

ai8ball (2007)

Rob Gonsalves

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Rubber, PVC Tubing, MDF, Computer with Custom Software, Video Projector
3.5ft wide x 6.5ft deep x 4ft high

ai8ball is an interactive video installation that answers yes-or-no questions using artificial intelligence. Viewers can ask their questions at a podium with a keyboard and trackball. The podium houses the CPU and a video projector that projects the questions and answers on a three-foot sphere, the ai8ball.

The system runs the following cycle of actions: 1. The viewer is prompted to answer three questions to be used as training data. 2. The viewer asks a yes-or-no question. 3. The system uses a neural network to answer the question. 4. The answer is presented with a degree of confidence.

The system uses an artificial neural network with 32 inputs, 32 hidden values, and one output (yes or no). When

*<http://www.collisioncollective.org>

a new question is asked, the question is parsed, filtered, and run through the neural net. The answer is presented, yes or no, with a degree of confidence determined by the neural net.

The following open-source code and data were used in the making of ai8ball: Princeton's WordNet database, Troy Simpson's WordNet .NET used for MS SQL access, Part-of-Speech Parser by Eric Brill, CRC source code from Sven Reifegerste, neural network code from Phil Brierley, and OpenGL Support for C# from Randy Ridges Tao Framework.

I would like to thank Jennifer Lim and Bill Tremblay for their inspiration and help.

AudioVortex (2006)

Owen Meyers

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Interactive Sound Installation (Computer, 8-Channel Soundcard, 8 Loudspeakers, 2 Stereo Microphones, Max/MSP)

7ft x 75ft x 10ft (adaptable)

AudioVortex is an interactive audio spatialization installation that attempts to blur, collapse, and ultimately overcome physical boundaries through the use of sound, thus giving people the ability to aurally interact and communicate with each other in what would otherwise be non-communicable spaces. Eight loudspeakers are strategically placed throughout the installations acoustic environment and microphones sample incoming sounds in real-time. The sounds are then manipulated with delay processing, including delay, flange, and reverberation, and pitch shifting effects before being sent back into the environment. The result of such manipulation is an evolving ambient soundscape.

Collider (2007)

Roy Pardi

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Steel, fabric, microcontroller, custom electronics and software

72in x 72in x 22in

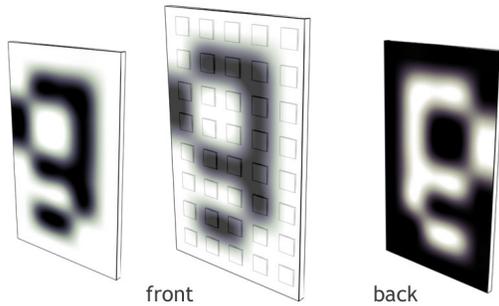
Collider takes its inspiration from the idea of a particle accelerator. The form of Collider is a wireframe torus divided into 24 segments. Each segment contains 2 lights pink and yellow- which are controlled through custom electronics and software. Collider runs through a varying sequence of light patterns and then rests. Each sequence starts with a simple set of rules which determine how the sequence plays out. Brief visual narratives develop as the light particles collide and rebound, form groups or split apart. The focus of Collider is on the experience of visual play in discovering patterns of apparent meaning.

Dewy (2007)

Amanda Parkes and Dietmar Offenhuber

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and



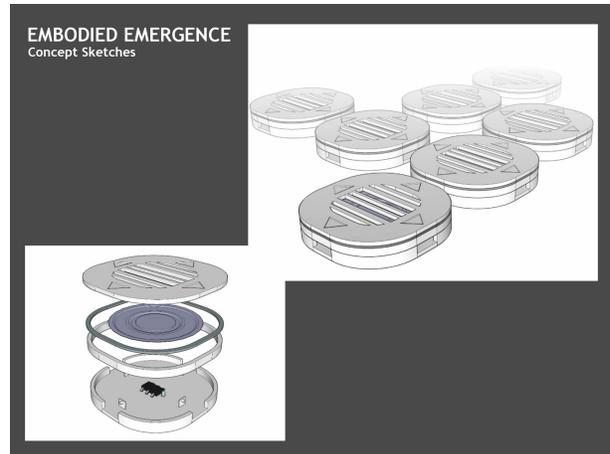
peltier junctions, felt, steel, acrylic, custom electronics
12in x 12in

Inspired by the natural interaction of physical state change cycles and the simplicity and subtle beauty of Hans Haacke's 1963 Condensation Cube, Dewy presents a display surface of 'pixelized' condensation, like a spatially controlled fogged window, one that can communicate back to you with words and patterns. Slow and subtle in behavior, Dewy utilizes a materiality and temporality reminiscent of many natural environmental processes, and attempts to challenge, or create an alternative, to the visual pollution of existing systems of public media display.

Embodied Emergence (2007)

David Bouchard

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<http://www.deadpixel.ca>



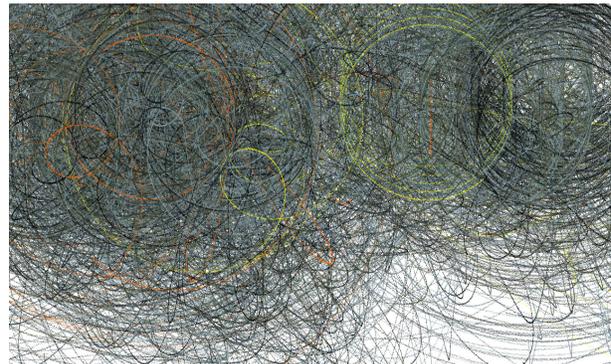
wood, acrylic, custom electronics
3ft x 3ft

Simple, localized interactions between elements of a system can sometimes result in the emergence of unexpected and surprising patterns. This project explores how we can leverage these patterns to create visual and sonic textures that can be directly manipulated by the users.

Heart Beat Drawing (2007)

Sinae Kim

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Processing, heart beat sensor, EZIO board , projector
12ft x 14ft x 17ft (projector)

Art is an extension of the mind. They contain people's feelings or intentions. Human emotion arise from complex external and internal contexts. How to contain human emotions in electronic canvas? Many computer generated drawings have abstract forms. My project , "Heartbeat Drawing" connects human and machine , mind and body. The possession of innate emotion in non-human intellects is primarily a philosophical topic. Many scientists have studied about how computers can be more emotionally

intelligent, especially responding to a person's feeling. In my project, Physical -digital interfaces provide the connective tissue between our bodies and the codes represented in our machines. I take these interfaces in an emotional way. Emotional understanding refers to the ability of a device to detect emotional information. I use Heart beat sensor to detect human emotions. Not only does the heart contain feelings and emotion metaphorically, it actually processes emotional information and communicates it to the brain. Abstract expressionism is parallel process of the heart/brain interface. My electronic canvas is affected by the inner response of the body , not by exterior response. The goal of my project is to enrich and facilitate emotional interactivity between human and the machine and give emotional meaning in my electronic painting.

' HEART BEAT DRAWINGS' consist of an abstract images with a heartbeat sensor . This everchanging shape is triggered by the viewer's heartbeat. This is controlled by Ezio board and Processing in a computer. The viewer's heart beat rate determines the color palette and character of drawing such as form and shape . The rythm of heart beat corresponds to the color and speed.

Lossless (2006)

Doug Goodwin and Rebecca Baron

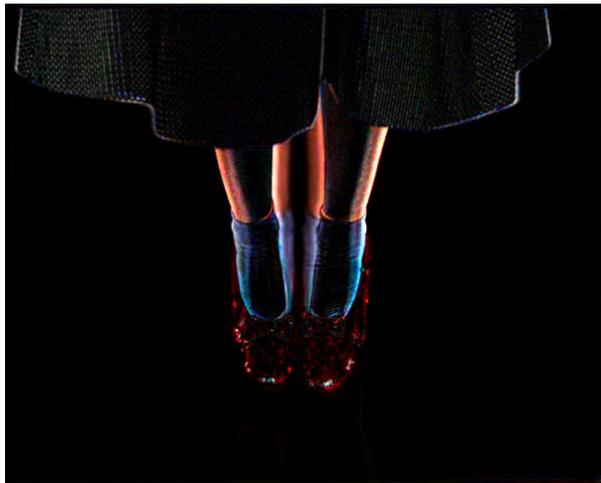
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and



16mm film loop
6ft x 8ft x 8ft minimum

We've seen "The Wizard of Oz" more times than any other movie. We may imagine it playing on a big screen in full Technicolor as it was shown in 1939. But the truth is that we've only seen it on television. Now that we may buy the digitally enhanced DVD and watch the "Wizard of Oz" on our laptop computers, we wanted to know

exactly how the media had changed. By capturing the differences between a 35mm print and a digital version, Lossless shows exactly what has changed.

We started the project by looking for the best and worst versions of "The Wizard of Oz." We soon realized that it would be impossible to secure the best version. George Eastman House has preserved an original negative (or negatives as it is a three-strip technicolor separation print). These negatives were scanned to create the 2005 Ultra-Resolution DVD. This DVD looks better than any other release we have found, including the 35mm print. So we were led away from the idea of measuring against a best version to calculating the total difference between two releases of the movie.

Media re-issues always promote improvements in fidelity. This project asks you to consider that fidelity by showing the difference between the film and digital renderings of "The Wizard of Oz." What is greater fidelity for those of us who grew up watching this film on Television? It is curious to see detail in the shadows, to see a rivet in the middle of the Tin-Man's face, and to see Kansas in sepia tones for the first time. What we really want is to get back in touch with that feeling we had the first time we saw the film. This feeling is something that cannot be restored by fidelity to the original, at least not for the TV generation.

Differences in media may be measured and these differences captured. Understanding the difference is another way to restore fidelity. Lossless means to clarify that difference.

Moore Pattern (2007)

Jeff Lieberman

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<http://bea.st>



Aluminum, DC Motor
1ft x 2ft x 4ft

Moore pattern was designed as a wedding gift for Jordan Moore and Emilie Croisier.

A moire pattern is an interference pattern created from overlaid patterns on top of one another. Moore pattern accomplishes a similar effect, using two counter-rotating bead-blasted aluminum disks, driven from a single motor below with a belt drive mechanism. The effect is not viewable without animating.

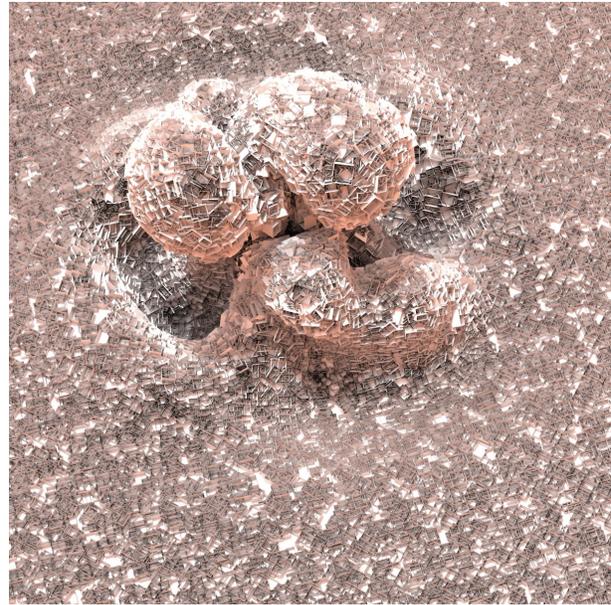
A concept that is important to me, when designing a wedding gift, is the concept of two 'opposites' combining in a fresh way, creating something that neither individual component could create on its own. This is, after all, the idea of marriage. Moore pattern is an exploration into that idea, using two completely anti-symmetric disks turning purely rotationally to create a purely radial patterned effect.

This work was inspired by the beautiful woodwork of David Roy.

Open House (2006)

Mark Stock

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Digital archival print
30in x 30in

The aim in much of my work is to combine the realism of modern scientific computational tools with otherwise completely fabricated data and have them fight it out. The goal in "Open House" was to create a landscape so foreign as to be nearly repulsive, but so real as to invite continued exploration.

The underlying geometry in "Open House" is in the form of a Rayleigh-Taylor instability: a fluid dynamic phenomenon in which an unstable layer between fluids of differing densities is distorted under acceleration. The shape was calculated with a new computational fluid dynamics method that was the result of several years of the artist's dissertation research. Even with the improved efficiency of new algorithms, hundreds of billions of calculations were required to advance the simulation to the time shown. The open cubes that grow over the landscape are positioned randomly around the centers and aligned with the edges of each of the triangular elements on the computational surface.

I wanted to use geometry to portray the dirty numerical underside of computational science: that of large problems being broken up into incredibly many pathologically simple problems. Taken as a whole, the many little solutions blend into the perception of a complete, smooth solution.

After an appropriate sun position and sky color distribution were set, the entire scene was passed to the rendering software. The full-size image was created with Radi-

ance, which is one of the few scientifically-validated lighting simulators, and which also has recently been made open-source. Radiance traced over ten billion rays to compute the light interreflection throughout the scene.

Organ Organ (2007)

Eric Gunther

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www.ericgunther.net



PVC, Wood, foam, transducers, fabric, sound, vibrations.

4ft x 8ft x 2ft

Vibrations can move the body, but can they move the soul? Organ Organ explores the idea of vibrotactile composition, transforming the human body into a stage on which an intricate spatial choreography of vibration unfolds.

The artist has created a two minute composition of billowing waves and stuttering torrents of sound and low-frequency vibrations that viewers experience by wearing headphones and laying on the surface of the piece.

Paradise Ranch (2007)

William Tremblay and Georgina Lewis

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Wood, aluminum, motors, computer, video camera, projector, found objects, plaster, scale foliage, digital prints, sound.

4ft wide x 7ft tall x 8ft long

Paradise Ranch is an abstract simulator delivering an experience of hovering over a section of the desert floor in Nevada. Employing digital video, a custom camera positioning system, sound, photography, plants endemic to the site of interest, and sculpture, Paradise Ranch is a first collaboration between artists William Tremblay and Georgina Lewis. It addresses the nature of Paradise, and the phenomenon of ubiquitous internet mapping use. The vehicle both contains and allows for the traversal of a miniature world. The diorama depicts a section of the Yucca Flats test area in Nevada, the site of over 900 atomic tests which have resulted in numerous impact and subsidence craters. The name Paradise Ranch refers to an alternate name for the nearby Area 51. The diorama contains scale craters, miniature detritus, and more out-of-context features, shifting attention between the simulated world and the surrounding one. The sound in the piece references the methodology of the Aboriginal Songlines which use narrative, sound, and historical myth as a means for mapping motion through a space in time. The piece is composed of processed sounds derived from words that describe the coordinates of space, an ambient background of machines humming, and other computer synthesized sounds. Though focused on the Earth and its terrain, the relationship is purely observatory. The pilot of this immobile vehicle will never make contact with the ground.

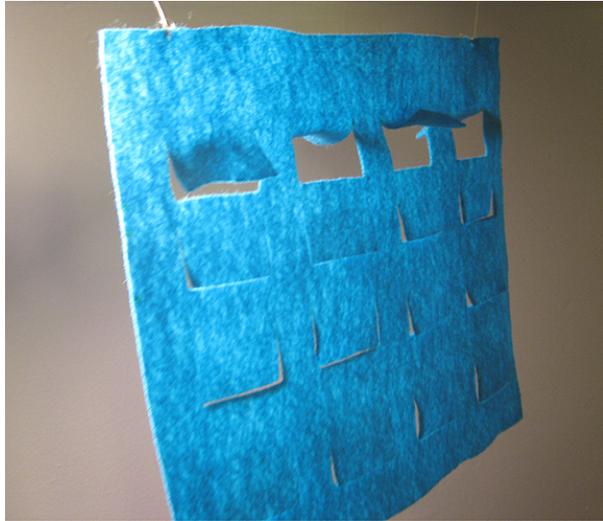
Shutters (2007)

Marcelo Coelho and Steve Helsing

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Felt, nitinol and custom electronics
3ft x 2ft

Shutters is a soft kinetic display composed of a felt sheet with actuated cut-out flaps or shutters. Each shutter is individually addressed, controlling both the amount and incidence of light passing through the felt. Using a traditional display metaphor, each shutter functions as a pixel creating a dynamic, backlit mosaic. Viewed at an oblique angle, the display can serve as an activated shadow maker, casting animated mottled patterns on nearby surfaces.

Shutters is made from shape memory wire and custom electronics.

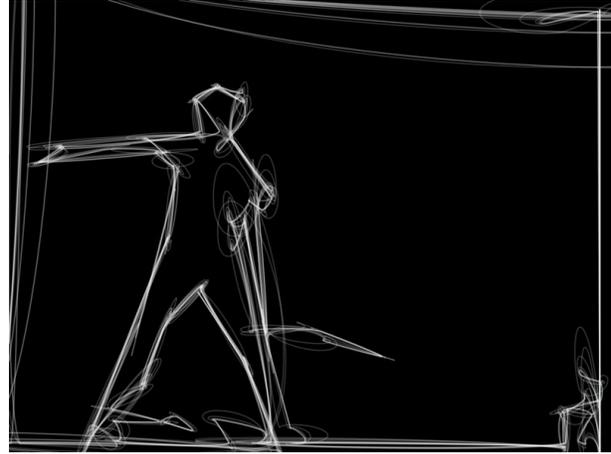
Sketchy (2007)

Jonathan Bachrach

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and jackbackcrack@gmail.com

www.jbot.org



wood, computer, lcd panel, gooze
2ft x 2ft x 4ft

Interactive frame by frame animation generated by custom software called Gooze. The software simulates the act of sketching with a physical arm giving some of the natural errors that human sketch artists make. Finally, animation is rendered on a push cart allowing visitors to physically sketch out their world.

Inspired by Fotron2000 robotic sketch artist by dan, jack, and jess of team fotron. Picture is one frame of Dejan of Fico Balet.

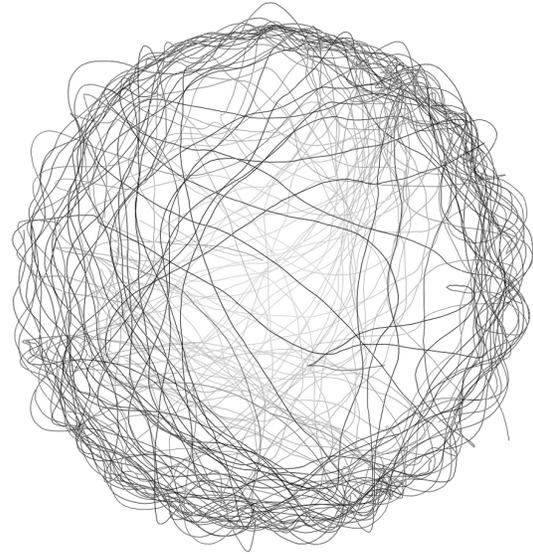
Supercell#1 (2007)

Fran Trainor

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frantrainor.com



digital prints
60in W x 60in H



Interactive Touch Screen
15in x 13in

Surface Traversal is a second attempt at using restricted emergent behaviors to define a geometric volume. This touch screen artwork asks participants to explore the evolving space by adding new travelers into the system.

Surface Traversal (2007)

Shawn Lawson

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A Touch of Ancient Memories (2007)

Henry Kaufman

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www.tumbao.net



Touchable rear projection screen with projector, camera, computer, and infrared lights
5ft x 4ft x 12ft

Between 13,000 and 15,000 years ago (and perhaps longer), our ancestors began creating paintings in caves of the world around them. The artists' handprints were often included in these paintings creating a powerful and unmistakably human connection with our past. Using biometrics, people discovered that some of the handprints groupings are only female, some are of adolescents perhaps making cave graffiti, and some are mixed. We can only try to infer the spiritual significance or other meanings that these prints had to the people who made them. Yet they captivate and move me on a powerful and deeply visceral level. Would I have been moved to leave my prints in a cave if I grew up long ago? By recreating this medium in an interactive form, I hope to encourage people to connect to a shared past by creating some new "cave art".

Cave Rock photo credit: Murali Rajaa (used with permission)

Web 021. . . (2007)

Peggy Nelson

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<http://www.peggynelson.com>



Ink, Stickers, Cellphones, Internet
4in x 4in

Web 021 . . . is a city-wide walking tour of the real "social web." Using stickers, cellphones, and 2D barcodes, Web 021 . . . challenges the viewer to peek under the construction of daily life to reflect on his or her own role in that construction.

Each sticker refers to a different URL; to activate a sticker, simply point your cellphone at the 2D barcode, or send a text message to the email address provided. A message will be returned to your phone. The messages invite the viewer to reflect on the combination of technology, economics, politics, and fantasy that produce the actual experience of a place, as well as the forces that attempt to package that experience, and sell it back to you.

Web 021 . . . highlights the importance of individual experience, and the strength of the virtual component of actual locations. The virtual has inhabited the real since we have been able to tell ourselves stories and leave pictorial signs; long before 3D avatars, mySpace pages, and

cool logos on t-shirts. Web 021 . . . re-activates the secret history of our virtual heritage, locates its presence in the physical environment, and hints at how much of that might be available for individual creative manipulation.

The installation will be up city-wide throughout 2007.