New Media Fellowships
2004 Project Cover Form

DAVID KARAM, GIGI OBRECHT

Title: Play/Making

Genre: Interactive installation

Applicant's Role in Production: Software development, fabrication, gesture analysis and sound synthesis

Production Format: Motion capture, computer and sound based installation

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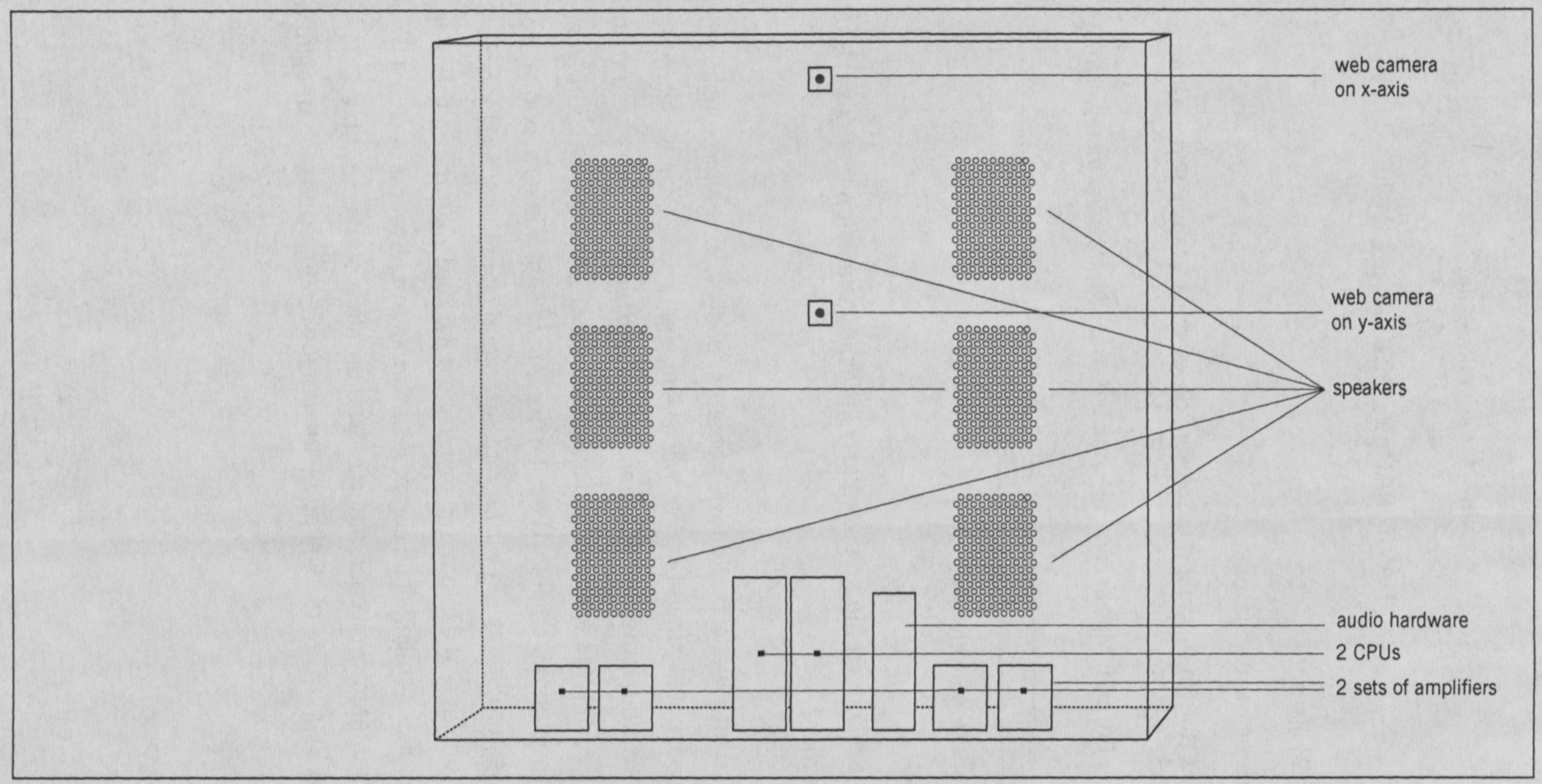
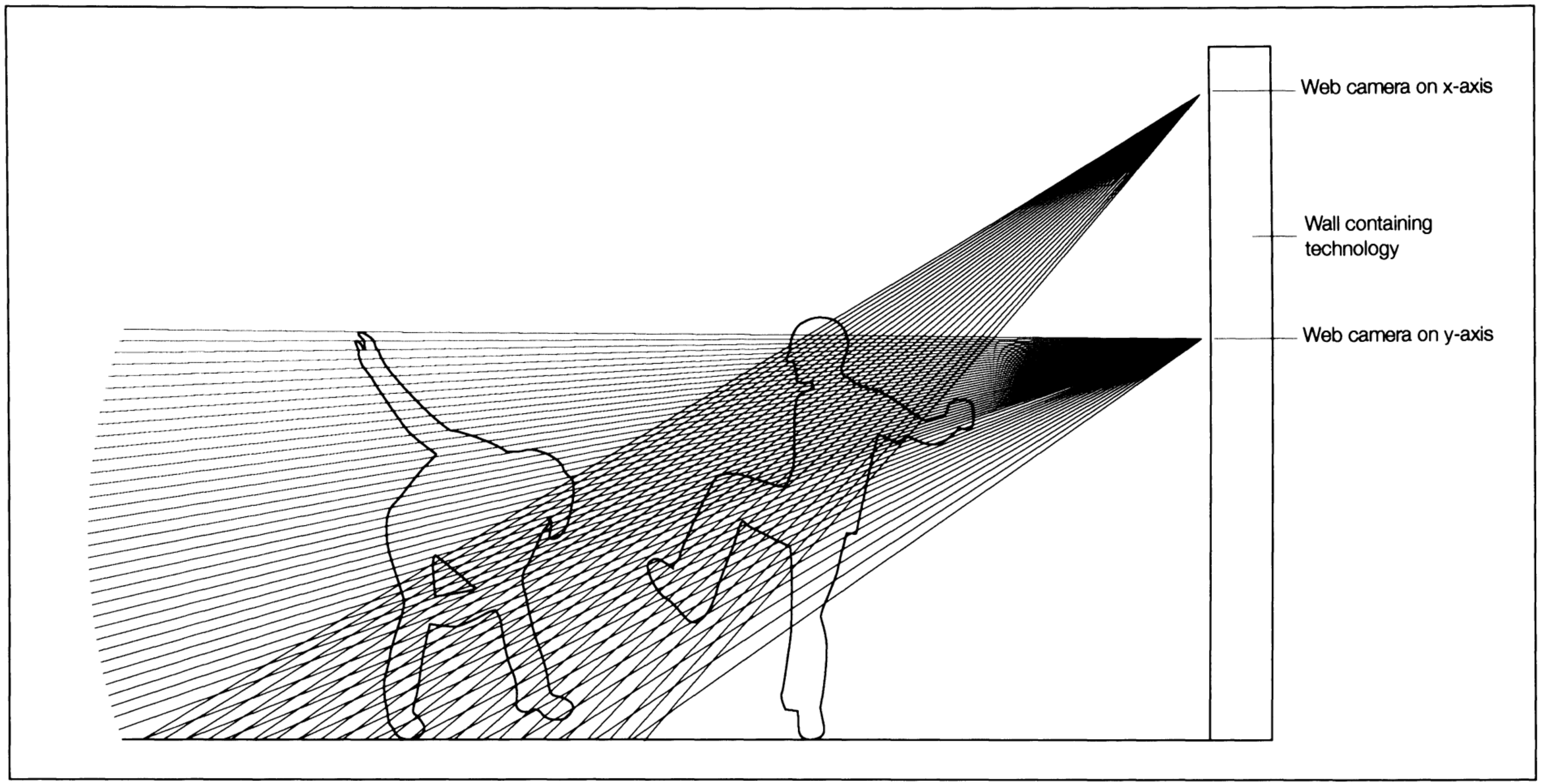
Brief Project Description

Our proposal is to create an essentially invisible installation that generates music from movement.

We propose an installation that will transform body motions into music, while remaining essentially invisible. We will create a play space for social interaction through sound/movement exploration, in which motion detectors record and translate the gestures of one or multiple participants into musical phrases. Different types of movement will elicit different types of sonic response: For example, gestural repetition will be registered and given back as rhythmic patterns. As "players" explore the space like a musical instrument, they find they can engage in a non-linguistic communication. In the absence of visual focus, participants interact with each other instead of with a surface or object. The possibilities for play are not limited by the person's age, education or cultural bias.



Installation Elevation, Front View



Installation Elevation, Side View
Web camera intersection of x and y axes

New Media Fellowships
2004 Sample Work Form

Check One: __x__ Sample
_____ Supplemental

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If you are sending more than one sample, please copy this page. Sample(s) must be cued: indicate how long each sample should be viewed for a COMBINED viewing time of no more than 15 minutes. If slides are included in this application, please list the title and year of the work on this form.

Title Variations

Year 2001

Technical Information

Original Format
_x_ Software
___ Web
_x_ Installation
___ Other _____

Format Submitted for Viewing
___ Software
___ Web
___ VHS
_x_ Other *DVD, printed*

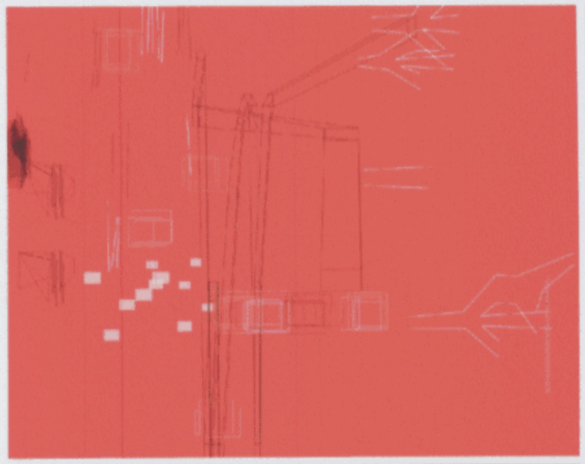
Preferred OS
___ Windows
___ Mac
___ Unix
___ Other _____

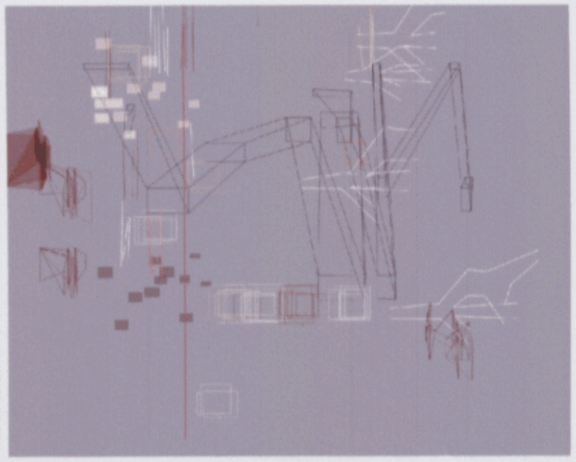
Special Information for Screening:

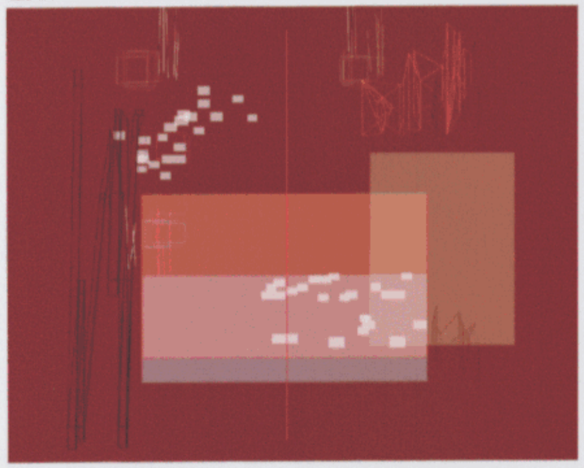
Description of Work

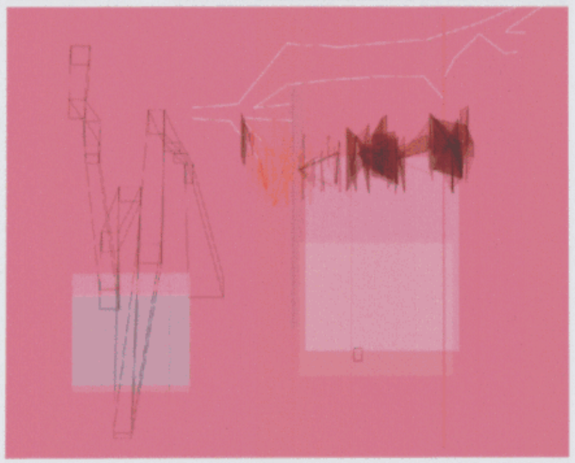
This DVD includes a brief overview of the Variations installation (2.5 minutes) as well as footage of a high school tour group at the installation site (1 minute).

Variations allows players to create complex animations and musical sequences by operating a simple, familiar device. We used a 1968 Montgomery Ward's Suitcase (toy) Organ as interface to the computer. With the simple shift of interface from a computer keyboard and mouse to a musical keyboard, the installation became accessible to users of any age, requiring no technical sophistication to operate. The keys produced animated imagery linked to sound in real time, allowing anyone to build simple or multi-layered audiovisual compositions. We saw mothers hold their toddlers who banged away on the organ and watched imagery dance by. Elderly people who might have felt intimidated by a computer-based installation were drawn to the organ keyboard. Witnessing this response was inspirational and reinforced our interest in creating projects for Play/Making.









"Variations" is a real time audio-visual animation keyboard. We used a 1968 Montgomery Ward's Suitcase (toy) Organ as the interface device. Sound is linked to animated imagery created in real time.

The surrounding images are screen captures from the program.

SFMOMA, 2001

New Media Fellowships
2004 Sample Work Form

Check One: __x__ Sample
_____ Supplemental

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Title Satellite

Year 2002

Technical Information

Original Format
x Software
_____ Web
x Installation
_____ Other _____

Format Submitted for Viewing
_____ Software
_____ Web
_____ VHS
x Other *printed photos*

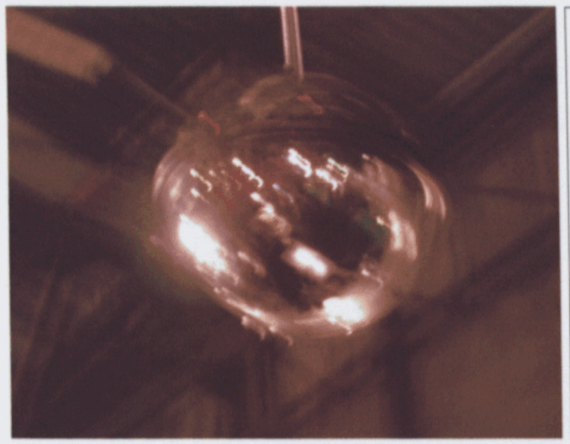
Preferred OS
_____ Windows
_____ Mac
_____ Unix
_____ Other _____

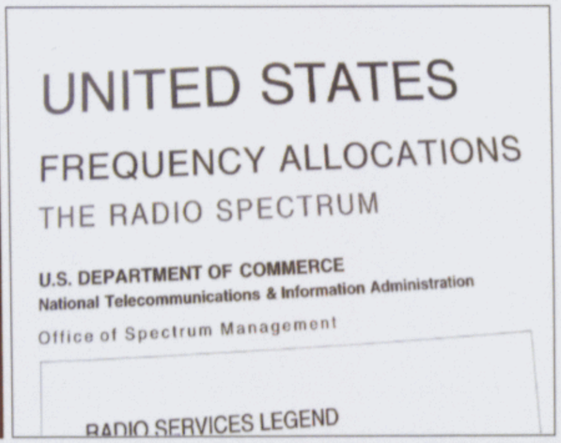
Special Information for Screening:

Description of Work

Photos of the installation site.

Satellite was created for the exhibit "Teleopolis." This installation addressed a specific theme formulated by the Exploratorium in San Francisco. "Teleopolis" probed the ways the physical city and its inhabitants are altered or reshaped by the increasingly powerful presence of electronic and broadcast media. The intent of *Satellite* was to draw attention to the mass of invisible frequencies or waves occupied by electronic and broadcast media. Physically, the installation's main component was a hollow mirrored surveillance ball, suspended overhead to represent a satellite. The surveillance ball was filled with motion sensors that produced noises best described as transmissions (fax sounds, radio static, dialing tones) when visitors happened into its "hot spots." (The "hot spots" had a sharply defined range much like that of cell phones, the user losing or gaining connection based on location.) Below the satellite on the floor was a silkscreened map showing the entirety of FCC frequency allotments. The air, we see, is full of invisible activity, its density depicted visually in the chart.





"Satellite" was installed at the Exploratorium in San Francisco as part of the exhibit "Teleopolis". The intent of "Satellite" was to draw attention to the mass of invisible frequencies or waves occupied by electronic and broadcast media.
Images: Top left, the Satellite,
Top middle, right and center are images of the FCC Frequency Allocations Chart.

Exploratorium, 2002

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Check One: __x__ Sample
_____ Supplemental

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Title Skipping

Year 2003

Technical Information

Original Format
__x__ Software
_____ Web
__x__ Installation
_____ Other _____

Format Submitted for Viewing
_____ Software
_____ Web
_____ VHS
__x__ Other *printed*

Preferred OS
_____ Windows
_____ Mac
_____ Unix
_____ Other _____

Special Information for Screening:

Description of Work

Video captures of rehersal space tests. Interface diagram.

Skipping: This software was designed for dancers from the modern dance school P.A.R.T.S. in Brussels, Belgium. "Skipping" was developed in collaboration with a dancer from the school who is interested in developing rules for creating improvisational choreography. The software records a dancer's movements using a video camera and reprojects the image onto the stage. The reprojected image is edited by the computer—interrupted, staggered, looped—based on parameters of motion controlled by the dancer's body. The camera and computer become a type of non-linear feedback mechanism, and the result is a visual dialog between the dancer and his or her own digital image.

"Skipping" is software designed for dancers. "Skipping" was developed in collaboration with a dancer who is interested in creating rules for improvisational choreography. The software records a dancers movements using a video camera and reprojects the image onto a screen. The reprojected image is based on parameters determined by the dancer. The result is a visual dialog between the dancer and the dancer's image.

P.A.R.T.S. Brussels, Belgium 2002

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Check One: _____ Sample
__x__ Supplemental

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Title SFMOMA Experimental Design Award exhibition catalog

Year 2001

Technical Information

Original Format
_____Software
_____Web
_____Installation
x Other *printed catalog*
_____

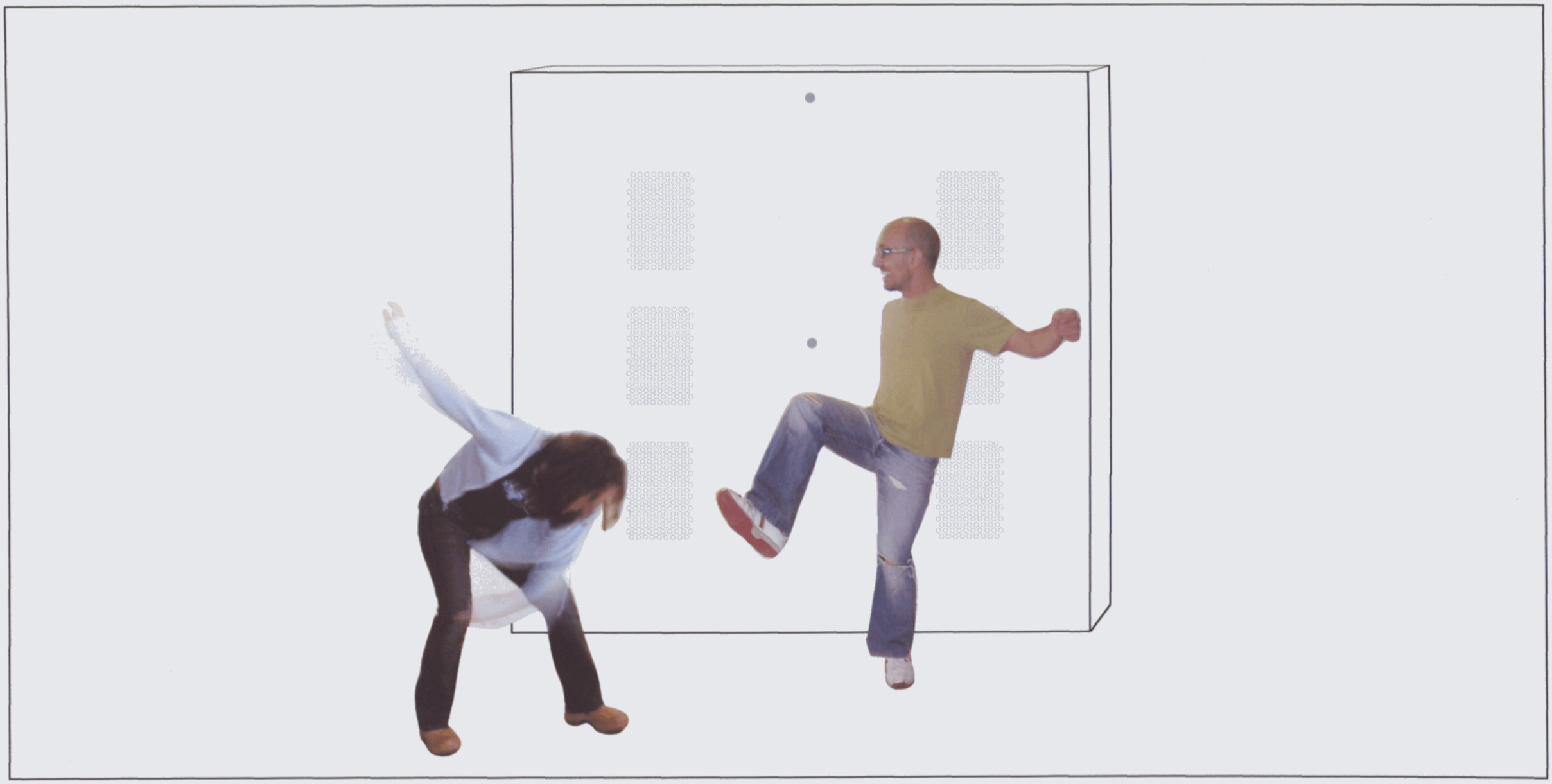
Format Submitted for Viewing
_____Software
_____Web
_____VHS
Other printed
_____

Preferred OS
_____Windows
_____Mac
_____Unix
Other _____
_____

Special Information for Screening:

Description of Work

The exhibition catalog produced for the showing of *Variations*.



Installation Frontal View
Figures interacting within the space

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2004 Sample Work Form

Check One: _____ Sample
__x__ Supplemental

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Title Self-published pamphlet, Post Tool

Year 2000

Technical Information

Original Format
_____Software
_____Web
_____Installation
x Other *12 pg pamphlet*
_____

Format Submitted for Viewing
_____Software
_____Web
_____VHS
Other printed
_____ _____

Preferred OS
_____Windows
_____Mac
_____Unix
Other _____
_____

Special Information for Screening:

Description of Work

A self-published philosophy statement with pink cover.

Proposal: Artist Statement

why we do what we do

Years ago when we started collaborating on projects, we noticed that the most enjoyable part of our work was the creative process, far more than the finished product. This realization, reinforced over and over again through our working relationship, inspired us with the desire to make artworks that would share with the public the experience of creating *the play* rather than simply an object for contemplation or for specified, predictable manipulation. We began to incorporate user-play aspects into our work, and they soon became a standard element.

In almost every interactive project we design, we provide a component that allows *the player* to engage in an independent creative experience. We no longer reference a "viewer" or even a "user" as with more mechanistic interactive devices. We started to refer to these activity options as tools for Play/Making.

Once it had sneaked into our projects as one angle of the whole, Play/Making slowly become our main focus. We are interested in creating projects that are openly accessible and that allow for one or more players to participate in open-ended creative activity. Ultimately, we want to provide a joyful and stimulating experience in which people come together.

Proposal: Project Narrative

We propose an installation that will transform body motions into music, while remaining essentially invisible. We will create a play space for social interaction through sound/movement exploration, in which motion detectors record and translate the gestures of one or multiple participants into musical phrases. Different types of movement will elicit different types of sonic response: For example, gestural repetition will be registered and given back as rhythmic patterns. "Players" explore the space as a modern musical instrument, and engage in non-linguistic communication. In the absence of visual focus, participants interact with each other instead of with a surface or object. The possibilities for play are not limited by the person's age, education or cultural bias.

The concept of this installation is part of a progression of projects that we have created.

Variations, our first installation of this type, allows players to create complex animations and musical sequences by operating a simple, familiar device. We used a 1968 Montgomery Ward's Suitcase (toy) Organ as interface to the computer. With the simple shift of interface from a computer keyboard and mouse to a musical keyboard, the installation became accessible to users of any age, requiring no technical sophistication to operate. The keys produced animated imagery linked to sound in real time, allowing anyone to build simple or multi-layered audiovisual compositions. We saw mothers hold their toddlers who banged away on the organ and watched imagery dance by. Elderly people who might have felt intimidated by a computer-based installation were drawn to the organ keyboard. Witnessing this response was inspirational and reinforced our interest in creating projects for Play/Making.

Skipping is software designed for dancers from the modern dance school P.A.R.T.S. in Brussels, Belgium. "Skipping" was developed in collaboration with a dancer from the school who is interested in developing rules for creating improvisational choreography. The software records a dancer's movements using a video camera and reprojects the image onto the stage. The reprojected image is edited by the computer—interrupted, staggered, looped—based on parameters of motion controlled by the dancer's body. The camera and computer become a type of non-linear feedback mechanism, and the result is a visual dialog between the dancer and his or her own digital image.

Satellite, an installation created for the exhibit "Teleopolis," addressed a specific theme formulated by the Exploratorium in San Francisco. "Teleopolis" probed the ways the physical city and its inhabitants are altered or reshaped by the increasingly powerful presence of electronic and broadcast media. The intent of *Satellite* was to draw attention to the mass of invisible frequencies or waves occupied by electronic and broadcast media. Physically, the installation's main component was a hollow mirrored surveillance ball, suspended overhead to represent a satellite. The surveillance ball was filled with motion sensors that produced noises best described as transmissions (fax sounds, radio static, dialing tones) when visitors happened into its "hot spots." (The "hot spots" had a sharply defined range much like that of cell phones, the user losing or gaining connection based on location.) Below the satellite on the floor was a silkscreened map showing the entirety of FCC frequency allotments. The air, we see, is full of invisible activity, its density depicted visually in the chart.

These past installations are part of our ongoing experimentation with dialog between the physical and the virtual. Virtual responses are drawn into the physical realm using the body and mind as the primary navigational system. The interactivity of the project we propose is based on body movement. A participant will interact with the project by moving her hands, arms or entire body in specific ways. Through interaction with the installation the player learns that specific movements yield specific types of sound. One might simply enjoy a call and response between themselves and the sounds their movements elicit, or the interaction might be an exploration of movement, sound and meaning either shared among participants or individually.

Our past projects form a logical progression, both conceptual and technological, leading to our present proposal. The concrete physical elements of the installation will consist of web cameras to sense motion and transmit the subtleties of these movements, and a computer, running software that we will create, which will read the movements and synthesize them with sounds. A set of stereo speakers and amplifiers will transmit the sound.

People will move through the installation by entering the realm of the movement-sensing cameras. This area will be modestly defined, primarily by the free-standing wall that contains all of the technology. Part of the experience of this installation is the discovery of it, and accidental as well as intentional involvement are both welcome. Walking through it, one may discover by accident that

they are triggering sounds and stop to explore this occurrence further. There will be some discreet signage, with minimal directions, that invites involvement. Or one might observe participants already engaged in play and join them.

Feasibility Statement

Our work combines sophisticated technological operations with robust human interfaces. "Variations" was written in the programming language C++ and SFMOMA claimed it was the most stable interactive installation that they had ever exhibited. The installation was sturdy enough to withstand three months of pounding by hundreds of visitors daily, and the software never "crashed." "Skipping" and "Satellite" were developed using MAX/MSP/Jitter, a sound- and video-processing program written by close friends here in San Francisco and used throughout the world for interactive art exhibits. The company views us as innovators and supports all of our endeavors. We have already begun researching details of gesture analysis for an upcoming show at the San Jose Museum of Art.

Use of Work

The installation provides a rich environment to explore the intuitive connections people draw between movement and sound. Perhaps the most exciting aspect of this proposed installation is to see how participants of differing linguistic bases find a level of non-verbal communication. This installation would be at home in any of several public spaces: science museums, children's museums, technology museums, art galleries, schools and airports. The distribution of such an installation would not be overly complex since there are relatively few components. Grant funding would provide for research, plans, production and construction of a non-site-specific installation

Proposal: Budget

Design and Fabrication of a collapsible and portable wall	$ 5,000
Electronics	
2 computers	4000
Firewire audio interface	500
Amplifier	500
Speakers	1500
Web cameras	200
Power/Cables	300
Instrument rule-set development	
Gesture categorization 3 months	
Musical connection 3 months	8,000
Software development	
Gesture capture and analysis 3 months	
Sound sequencing and synthesis 3 months	15,000
Total	$ 35,000

Resume

Gigi Obrecht and David Karam have collaborated for 12 years to make sound, art and multimedia. Their working relation is know as Post Tool design, an internationally acclaimed art and technology partnership based in San Francisco since 1993. Post Tool design has garnered numerous awards and recognition for its work in interaction design. In 2001, the San Francisco Museum of Modern Art recognized the group with an exhibit of their interaction and navigation-based work, honoring it with the First Annual SECA Experimental Design Award. The museum has also acquired the group's work for its permanent collection. The Smithsonian's Cooper-Hewitt Museum in New York has also featured the work of Post Tool as part of their first "Design Triennial." Post Tool is distinguished by its ability to link art with technology; the partners, David Karam and Gigi Obrecht are philosophically committed to the integration of design and technology.

Post Tool has worked with a wide range of cultural institutions including the Getty Center, the Rock and Roll Hall of Fame and The Exploratorium. Post Tool is featured in numerous contemporary books on design and technology and has been recognized both nationally and internationally. They have traveled extensively and are sought out to make presentations and teach their innovative style in design throughout the United States, Europe and Japan.

Post Tool partners, David Karam and Gigi Obrecht met in 1989 as students at the California College of Arts and Crafts, (CCAC). Sensing then a natural affinity, the two experiemented with computer animated interactive art, then in the media's infancy. While their backgrounds run the gamut of practitioner and classicist, David and Gigi have made a permanent imprint on the art and technology world.

David began his career as a teenager, designing and selling through Radio Shack a software game, "To Preserve Quandic." Later, he attended college at the University of Texas at Austin, where he concentrated on Music and Programming. At CCAC, David was named a distinquished graduate in 2000. He currently teaches in the Graphic Design program at CCAC in addition to designing the school's curriculum for new media studies. He spends 2 months a year advising students of the cross-disciplinary post-graduate program, Transmedia, Sint Lukas Hogeschool Brussel.

Gigi studied painting and art history first at Skidmore, then at the Sorbonne in Paris. She also studied two years at the Parsons School of Design, before attending CCAC in San Francisco. She currently teaches in the Graduate program in design at CCAC.

post tool design has been featured in

ID Magazine 'An Interpretation of Dreams for Our Times' 2/1995
Graphis Magazine 'Multimedia by the Bay' 3/1995
Communication Arts 'Post Tool design' 5/1996
Popeye Magazine-Japan 'Post Tool' 7/1996
Creative Review 'Brainshift 11/1996
Design Plex 'Post Tool design' 10/1997
IMG SRC 100, Auras Inc. 1998
Typographics Three Global Vision, Hearst Books Intl. 1998
Eye Magazine 'Serious Doodling' 6/1998
Radical Graphics, Chronicle Books 1999
Sonic Graphics/Seeing Sound, Rizoli, 2000
Design Culture Now, Cooper Hewitt Nat'l Design Museum, 2000
Coast to Coast, Comtemporary American Graphic Design, 2001
Graphic Design in the 21st Century, 100 of the best Graphic Designers, Taschen, 2002

post tool design is in the collection of

San Francisco Museum of Modern Art 'Post Tv' 1997
Cooper-Hewitt Ntl. Design Museum, Smithsonian Inst. 'Cardinal Direction' Video 4/2000

post tool design has received nominations and awards for

Chrysler Award Nominee for Innovation in design 1995,1997 & 2000
Fleishhacker Foundation grant nominee for 1996 artistic achievement
ID Magazine Interactive Silver 'Listen' 6/1999
E-Phos Intl. Festival of Film and New Media Best CD-Rom 'Listen' 8/1999
SECA/ SFMoma A+D Experimental Design Award, 1/2001

post tool design has delivered lectures on design and technology to

Cal Arts 'On Interactivity' 1995
AIGA National Convention 'Post TV' 1995
SVA How We Learn What We Learn 'Redefining Interactivity' 1997
The Creative Show, London 'Redefining Interactivity' 1997
AIGA Seattle Minds On Conference 'Interactive Environments' 1997
AIGA National 'Virtual Identity' 'The Museum in the Digital Age' 'Generation Extraordinaire' 1997
Technique, Monterey 1998
Cal Arts 'Style and Content' 1999
Sci Arc 'Differentiated Topographies' 1999
Art Center Pasadena 'Audio Interface' 1999
University of Hawaii 'Behavior is Form' 2000
Beursschouwburg, Brussels, (visiting artist lecture) 2000
Parsons 'Excavating the Archive' 2000
The Netherlands Design Institute, 'D.DADA' 2000
Yerba Buena, AIA lecture Series, November, 2001
Stanford Design Lecture series, May 2003