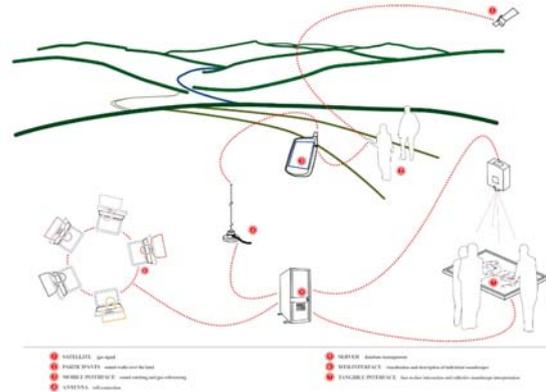


The Affective Geography of Silence — Towards a Museum of Natural Quiet

Elisa Giaccardi
University of Colorado
Center for LifeLong Learning & Design (L3D)
Department of Computer Science
430 UCB
Boulder, CO 80309-0430
U.S.A.
Tel: +(303) 4924147
elisa.giaccardi@colorado.edu
<http://www.thesilence.org>

with Hal Eden and Gianluca Sabena



*Figure 1: Overview of the socio-technical architecture:
A combination of multiple interaction spaces
and social practices mediated by
locative media and tangible interfaces
Copyright © Elisa Giaccardi and Gianluca Sabena*

Keywords

silence, natural quiet, virtual museum, locative media, affective geographies, sociotechnical architectures, tangible interfaces

Abstract

Silence of the Lands enables participants to annotate and map the soundscape of wild and urban natural environments. Participants can record and collect ambient sounds, create and share individual and collective cartographies, and use them as conversation pieces of a social dialogue on natural quiet. The result is a virtual museum in which natural quiet is transformed into a living and affective geography that changes over time according to participants' perceptions and interpretations of their natural environment.

Statement

Silence of the Lands is a long-term project about natural quiet. The project promotes a model for preservation, experience, and renewal that empowers the active and constructive role of local communities in the collection and interpretation of natural quiet as a cultural object [1]. This is accomplished by using ambient sounds as conversation pieces of a social dialogue aimed at transforming the virtual museum in a place of cultural negotiation [3, 4], linking the perceptions, interpretations, and values that pertain to a specific environmental

setting. The project embodies an approach to interaction design — viz., metadesign [2] — as a form of cultural intervention aimed to support creative and sustainable solutions to complex societal problems.

Silence of the Lands enables people with different, sometimes competing perceptions and values to communicate and coordinate their perspectives about natural quiet by using sounds rather than words. The primary objective of the project is to encourage an engaged way of listening to natural quiet and sustain a reflective mechanism for expressing and sharing this experience. The goal is to support a situated, reflective, and narrative mode of producing and interpreting natural quiet that may foster public participation and contribute to the emergence of new practices of community development. By extracting sounds from the local environment and composing them in a personal acoustic ecology, people will produce soundscapes that reflect their individual embedded knowledge, daily practices, needs, and concerns. In turn, this will provide them with a new sense of “ownership” and an opportunity to learn from each other.

In order to support the social dialogue and collaborative design of the museum, the project combines locative media and tangible interfaces in a socio-technical architecture of distinct, but integrated interaction spaces (figure 1, see page 1).

By providing different entry points, promoting the different properties of each interaction space, and supporting different interaction roles over a sustained period of time, such an architecture aims to: (a) empower the creative interaction between current and future interpretations of the cultural object that is engendered by collaborative mapping, (b) enable participation and collaboration that fit more naturally with existing social practices and the way in which people act and interact with their local environment, and (c) reconcile and integrate the relationship between wild nature and the digital life by supporting processes of social awareness and informal learning.

The collective conversation produced by participants’ collaborative mapping is expected to create an affective geography of natural quiet and transform natural quiet from an abstract concept into a living and emotional cartography that changes according to current and future interpretations. In this way, the *Silence of the Lands* will provide the community with a probe for visualizing the collective perception that pertains to their specific environmental setting [5].

The use of multiple tools and interaction spaces, separated physically but seamlessly integrated virtually, promotes the integration of individual and social creativity [6, 7]. Moreover, the flowing and manipulation of data throughout multiple interaction spaces (including the natural environment) sustains the engaging possibility of collecting and reinterpreting both individual and collective data over a sustained period of time, according to the different properties of the space with which a user is interacting and through which data is traveling.



Figure 2: Web visualization of the collective soundscape and color-coded audio objects at different zoom levels: Color-coding (from green to red) allows one to easily spot areas of consensus, dissension, and uncertainty about which places are quieter or noisier according to collective perception

Copyright © Elisa Giaccardi and Gianluca Sabena

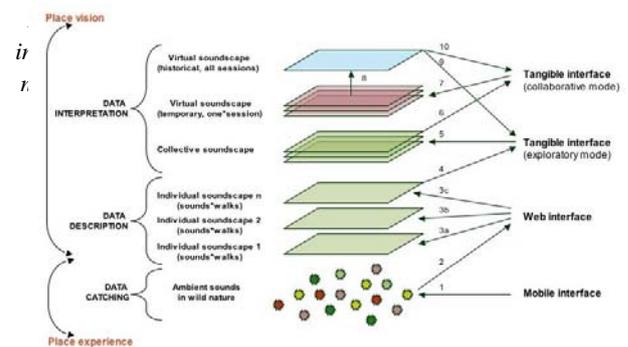
This result is obtained by combining locative and tangible interfaces and social practices via: (a) data catching (collecting sounds from the local environment); (b) data description (organizing them in personal soundscapes in the web community); and (c) data interpretation (the collaborative mapping instantiated by the interplay among participants' personal experiences and values). This integration represents the convergence of two different dimensions: place experience (the concrete experience of the natural environment) and place vision (the imaginary experience of the same environment as recreated by memory and desire) (see figure 2, left).

Ambient sounds are collected from the natural environment by means of handheld devices. Each sound is linked to the person that collected it and is associated to GPS data, which determine its location in space and time. Audio objects and sound walks (i.e. the paths followed by participants during recording sessions) are stored on the web server and visualized on the web site as individual soundscapes. On the Web, participants can access and manage their individual soundscapes and eventually modify them. They can also visualize the collective soundscape resulting and growing from the overlap of all individual soundscapes (see figure 3, below). In the public space, both old and new participants can interact with the collective soundscape by means of a tangible interface based on the manipulation of physical objects. Each public session produces a temporary soundscape, reflecting the understanding and creativity of the people that participated in that session. All temporary soundscapes are then composed in a historical soundscape on the basis of purposely-designed algorithms. A visualization of the historical soundscape is provided both on the Web and in the public space.

Silence of the Lands is a project currently under development at the L3D Center, University of Colorado, Boulder, and it was originally inspired by the vision and principles of the Envisionment and Discovery Collaboratory [8].

At the current stage, the project comprises low-fidelity prototypes of the locative application, web interface, and tangible interface [9].

Locative application and web interface will be available for download and use in the Spring 2007; the tangible component of the architecture will be part of a three-year project scheduled to start in the Fall 2006.



References and Notes

1. E. Giaccardi, H. Eden and G. Sabena, "The Silence of the Lands: Interactive Soundscapes for the Continuous Rebirth of Cultural Heritage," in *Pride & Pre-Design: The Cultural Heritage and the Science of Design* (CUMULUS 2005), Lisbon, Portugal, 26-29 May 2005, pp. 163-168.
2. E. Giaccardi, "Metadesign as an Emergent Design Culture", in *Leonardo*, Vol. 38, No. 4, pp. 342-349 (August 2005). See also: E. Giaccardi & G. Fischer, "Creativity and Evolution: A Metadesign Perspective," in *Design System Evolution (EAD6)*, Bremen, Germany, 29-31 March 2005, CD-Rom.
3. R. Ascott, "The Museum of the Third Kind", in *InterCommunication*, No. 15, pp. 74-79 (Winter 1996).
4. E. Giaccardi, "Memory and Territory: New Forms of Virtuality of the Museum," in *Museums and The Web 2004*, Arlington, VA, 31 March – 3 April 2004.
5. For studies on data visualization, mapping, and affective geographies, see: L. Manovich, "Data Visualisation as New Abstraction and Anti-Sublime," August 2002, available at www.manovich.net/; see also: calc's seminal project "Geografia Affettiva" at www.calcaxy.com.
6. P. Jennings and E. Giaccardi, "Creativity Support Tools for and by the New Media Arts Community," in B. Schneiderman and others (eds.), *NSF Report on Creativity Support Tools*, Washington D.C., June 2005.
7. G. Fischer, E. Giaccardi, H. Eden, M. Sugimoto and Y. Ye, "Beyond Binary Choices: Integrating Individual and Social Creativity", in *International Journal of Human-Computer Studies*, Special Issue on Creativity and Computational Support (E.A. Edmonds & L. Candy, eds.), Vol. 63:4-5, pp. 482-512 (October 2005).
8. E. Arias, H. Eden, G. Fischer, A. Gorman and E. Scharff, "Transcending the Individual Human Mind: Creating Shared Understanding through Collaborative Design", in J. Carroll (ed.), *Human Computer Interaction in the New Millennium* (New York: ACM Press; Boston: Addison-Wesley, 2002) pp. 347-372.
9. For a description of current findings and implementation, see: www.thesilence.org. See in particular the reports: E. Giaccardi, G. Sabena and H. Eden, "The Silence of the Lands: An Overview," June 2005 (on the socio-technical architecture and the initial technical implementation), N. Campbell, T. Koelling, K. Nishimoto and A. Stanway, "Silence of the Lands: Community of Soundscapes," November 2005 (on the web interface and issues of community building on the Internet), and R. Coyer, "Study and Application of Game Design to Silence of the Lands," November 2005 (on the tangible interface and issues of motivation and collaboration in the public space).
10. See R. M. Schafer, *The Tuning of the World: Toward a Theory of Soundscape Design*, Philadelphia PA: University of Pennsylvania Press (1980).
11. J. Cage, *Silence: Lectures and Writings* (Middletown CT: Wesleyan University Press, 1961) p. 191.

Author Biographies

ELISA GIACCARDI is a Research Associate at the Center for LifeLong Learning & Design (L3D), University of Colorado, Boulder. She holds a Ph.D in Interactive Arts from the University of Plymouth, U.K. (Planetary Collegium, ex CAiiA-STAR). An abstract of her doctoral dissertation is available on the Leonardo Abstract Service (LABS) at: <http://leonardolabs.pomona.edu/>. Prior to her academic position at the University of Colorado, Elisa was Head of New Media at Fondazione Fitzcarraldo, Turin, Italy — a non-profit organization for research, training, and documentation on art, culture, and media management, economics, and policies. She combines academic and professional activities in new media art, interaction design, and cultural management with a strong interest in metadesign, new heritage, and affective geographies. Her transdisciplinary research in metadesign was awarded the European grant “Ideas for the Future” by Fondazione Eni Enrico Mattei in 2001. Elisa has lectured and published her work in leading scholarly journals and at international conferences, and she is a member of advisory boards and technical committees for EAD, ACM, and MIT Press.

GIANLUCA SABENA is a software developer and interaction designer at Fondazione Fitzcarraldo, Turin, Italy — a non-profit organization for planning, research, and training on culture, arts, and media management, economics, and policies. He is also a founding member of the collective Gruppo-Sfera, dedicated to landscape research and community development.

Citation reference for this Leonardo Electronic Almanac Gallery Statement

MLA Style

Giaccardi, Elisa, Eden, Hal and Sabena, Gianluca. “The Affective Geography of Silence — Towards a Museum of Natural Quiet.” “Wild Nature and the Digital Life Gallery” Special Issue, Leonardo Electronic Almanac Vol 14, No. 7 - 8 (2006). 30 Nov. 2006 <<http://leoalmanac.org/gallery/digiwild/silence.htm>>.

APA Style

Giaccardi, E., Eden, H. and Sabena, G. (Nov. 2006) “The Affective Geography of Silence — Towards a Museum of Natural Quiet,” “Wild Nature and the Digital Life Gallery” Special Issue, Leonardo Electronic Almanac Vol 14, No. 7 – 8 (2006). Retrieved 30 Nov. 2006 from <<http://leoalmanac.org/gallery/digiwild/silence.htm>>.

“... the highbrow hot spot of cyberspace ... a digital bible for the lowdown on the [hi-tech] art scene.” –Wired

Leonardo Electronic Almanac (ISSN: 1071 4391)

Nisar Keshvani, Editor-in-Chief

Established in 1993, Leonardo Electronic Almanac is, jointly produced by Leonardo, the International Society for the Arts, Sciences and Technology (ISAST), and published by MIT Press, is an electronic journal dedicated to providing a forum for those who are interested in the realm where art, science and technology converge. For over a decade, LEA has thrived as an *international peer reviewed electronic journal* and web archive covering the interaction of the arts, sciences, and technology. LEA emphasizes rapid publication of recent work and critical discussion on topics of current excitement with a slant on shorter, less academic texts. Many contributors are younger scholars, artists, scientists, educators and developers of new technological resources in the media arts.

Wild Nature and the Digital Life

Guest edited by **Dene Grigar and Sue Thomas**

Generative and Emergent

- :: Artificial Ecologies: Second Nature Emergent Phenomena in Constructed Digital - Natural Assemblages - *Peter Hasdell*
- :: Butterfly Effects: Synthesis, Emergence, and Transduction - *Tara Rodgers*
- :: Digital Behaviors and Generative Music - *Dave Burraston and Andrew Martin*
- :: Bodies in Biotechnology: Embodied Models for Understanding Biotechnology in Contemporary Art - *Jennifer Willet*

Locative and Performative

- :: Kudzu Running: Pastoral Pleasures, Wilderness Terrors, and Wrist-Mounted Technologies in Small-Town Mississippi - *Adam Gussow*
- :: Mapping the Disaster: Global Prediction and the Medium of 'Digital Earth' - *Dr. Kathryn Yusoff*
- :: Views From Above: Locative Narrative and the Landscape - *Jeremy Hight*
- :: Paradigmatic Performance: Data Flow and Practice in the Wild - *Brett Stalbaum*

Wild Nature and the Digital Life Gallery

Curated by **Dene Grigar and Sue Thomas**

- :: Future Nature - *Karl Grimes*
- :: The Affective Geography of Silence - Towards a Museum of Natural Quiet - *Elisa Giaccardi, Hal Eden and Gianluca Sabena*

LEA is a free supplement for Leonardo and Leonardo Music Journal subscribers.
Subscribe at: <http://leoalmanac.org/search/newuser.asp>

MIT Press Journals

238 Main St., suite 500, Cambridge, MA 02142

phone: 617-253-2889 / fax: 617-577-1545 / journals-orders@mit.edu

art / science / technology

<http://leoalmanac.org> lea@mitpress.mit.edu