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Appendix A: Companion DVD Description



Figure II-1. Companion DVD Menu Selection

This Appendix includes a description of the supporting video material on the **Companion DVD** submitted with the Thesis. The video has been selected to support the research described within the thesis. Additional video and visual material can be found on the website. <http://www.sfu.ca/~tschiph/>

My research explores embodied interaction through movement, touch and body-state. I bring deep working knowledge and experience from the fields of performance and Somatics to my research. My life-long training in dance, choreography and Somatics techniques include expert knowledge in movement creation, movement analysis, physical and structural techniques (such as Laban Effort/Shape, Feldenkrais and

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Alexander Methods), and a particular sensitivity to what I consider a kind of “feminizing” of technology.

My professional training in computing, computer programming and systems analysis enables me to conceptualize and design within the field of human computer interaction. My research processes result in working technology prototypes in the form of art installations that are exhibited, tested and validated within the context of an international interactive art community.

Companion DVD

The companion DVD includes three ‘themes’ around which the video examples are clustered: *bodystate*, *breath*, and *touch*. The video selections are designed as support material for the Case Studies described in Chapters 5, 6, and 7. DVD titles and corresponding Chapters are listed below:

DVD menu title	Thesis Chapter
chapter 5 bodystate	Chapter 5 From the Inside Out
chapter 6 breath	Chapter 6 Designing with Breath
chapter 7 touch	Chapter 7 Somaesthetics of Touch

Table II-1. Companion DVD Menu Selections and Corresponding Thesis Case Study Chapters

Bodystate

The first theme includes selections from the development and exhibition of the *whisper* wearable art installation, which explored interaction with one’s own body-state. In these examples body-state is explored by the simple act of attending to one’s body data. The whisper installation uses the physiological data of breath and heart-rate. The goal of the installation is to enable the cultivation of self-observation in such a way that body-state can be observed and shared with others in a networked environment.

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Many physical techniques in Somatics and performance use self-observation as a mechanism for learning to experience and understand our own embodied physical processes. Within these frameworks, directing attention to the experience of one's state can enable greater access to 'knowing the self', and an ability to share that self (including the data of the self) with others. Under the theme *bodystate*, I have included two selections:

- **whisper installation** 2002-2003; whisper was the first of three wearable prototypes explored in the context of interactive art. **whisper** used kimono-style jackets containing breath and heart-rate sensors. These controlled a real-time visualization projected onto the floor in pools of light. This 7-minute video documents the whisper installation in Cambridge, UK, April 2003, as part of the Respond Festival. The development of this piece initiated the founding of the whisper[s] research group.
- **whisper workshops**; the whisper experience design workshops were conducted in November 2002, and formed the basis of the interaction design used to develop the experience and the technology prototype for the whisper installation that premiered at the Dutch Electronic Arts Festival in 2003. This 2.5 minute video is divided into 4 segments. Each of the four segments shows two examples: 1) video footage from the workshop followed by 2) video footage from the installation. Each segment illustrates how the workshop experience data formed the basis for the design of interaction metaphors, interactive garments, gestural interaction and group connectivity within the installation. Each of the four segments 'clusters' similar interaction concepts and illustrates their interaction. These four segments are described in the table below:

Video Segment	Cluster of Concepts
one	self-to-self; listening; awareness; body-data
two	self-to-other; sharing; play; transfer
three	exchange; permission; control; touch; 'snaps'+ 'islands'
four	self-to-group; extension; body image; creating larger body

Table II-2. Companion DVD 'whisper workshops' description of video content organization

Breath

The second theme *breath* includes video footage from the piece *exhale*, as it was exhibited as a prototype during the Siggraph 2005 Emerging Technologies exhibition. *Exhale* explored one's own relationship to breath in order to negotiate shared breath through a network of skirts that exist in a public networked environment. The goal of the cultivation of self-observation continues in this work. Many physical techniques in Somatics and performance use breath as a mechanism to direct attention to our own physical processes. Within these frameworks, attention to breath is experiential and can effect or control bodystate. Under the theme *breath*, I have included:

- **exhale** 2005-2006; *exhale* was the third in a series of wearable prototypes. In **exhale** breath is used to actuate small vibrators and fans sewn into the linings of skirts. While **whisper's** breath data actuated visualization, **exhale's** breath data actuates physical vibration and the movement of air (fans) on or close to the skin. The placement of these actuators beneath the skirt lining explicitly hides them from the visual sense. In this way **exhale** explores the *legibility* of physical actuation (such as vibration) *without* dependence upon visual perception. This video documents a 'proof-of-concept' exhibition at Siggraph 2005 Emerging Technologies, a showcase for innovation in new technologies. The video describes the concept and underlying context of the research.

Touch

The sense of touch has been a theme in my art-work since 1995 and in my somatics training since 1984. The videos selected in this theme illustrate my historical exploration of tactile interaction. They span a 7-year period and illustrate a range of expressiveness and application. In these art-works touch and tactile interfaces are used as an exploration of *active touch*¹ in experience. In particular, experience that 'attends' to our inner state through touch. Touch is sometimes called "the first sense", and is associated with intimacy and empathy. Touch is also an important sense in the field of somatics. The selected art-works remain influential in my research trajectory today. For example, my latest art-work entitled *soft(n)* (2005-2007) further articulates concepts that I began to develop in 1995, and builds on the semantics of caress shown in the FlowField Video. The *touch* theme includes four video examples:

- **Bodymaps: Artifacts of Touch** (1995-1997), was the first interactive artwork that bridged the tactile aspect of my somatics training with my background in computer design. This work is autobiographical in nature and has an intensely personal, sensual, sometimes disturbing quality. At the time of Bodymap's inception the 'hand' in HCI was used primarily as a pointing and clicking device or as a command-based driver of interaction, remaining divorced from its tactile nature. I was interested in counter-pointing the prevalence of goal-directed interaction, exploring interaction that simply 'made space' for the existence of experience for its own sake. In Bodymaps, the treatment of the video and audio content was influenced by Luce Irigaray's book "Marine Lover", an essay written to Nietzsche in a lyrical dialogue form, interrogating him 'from the point of view of water'².

¹ *Active touch* is defined by J.J., Gibson in *The Senses Considered As Perceptual Systems*. Gibson identifies that touch can be simultaneously Objective and Subjective "the same stimulating event has two possible poles of experience, one objective and the other subjective. There are many possible meanings of the term *sensation* but this is one: the detection of the impression made on a perceiver while he is primarily engaged in detecting the world". pp 99.

² In *Marine Lover*, Irigaray ruptures conventional discourse, writing in dialogue form in a lyrical style that defies distinctions among theory, fiction, and philosophy. A leading French feminist and psychoanalyst, Luce

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- **Felt Histories** (1998-2000), continued the artistic and technological theme of *Bodymaps*, but extended its technological exploration to include real-time mixing of video and sound through a networked system. Its thematic content was biographic in nature, based on an aural history of my mother's memories of her upbringing as a Dutch child in a large Catholic family, exploring the tensions between her femininity and the physical nature of her body and bodily memories.
- **FlowField** (2001-2002) is a 'proof of concept' based on an initial implementation of an input *semantics of caress*. Flowfield was funded by the Advanced Systems Institute (ASI), and was a collaboration between Tactex Controls Inc., UBC (Sid Fels), and TechBC (Thecla Schiphorst). Timothy Chen, a Masters' student at UBC contributed the work on the particle field interaction while my contribution to the project was the development of a heuristics for tactile recognition based on Laban Effort/Shape analysis. The Effort/Shape system defines the taxonomy for movement qualities in 3D space, and this was applied to *touch*. In the video this is implemented on the Tactex MTC Express Tablet.
- **Tactile Fabric Prototype** (2005-2007) illustrates the first fabric tactile prototype developed during the design process of *exhale*. Following from Flowfield's implementation this research had been successfully ported to PDAs that enable data to be derived from hand-sewn tactile arrays constructed from textiles, conductive foam and conductive fabric. Recently, this was applied to *soft(n)* (2005-2007) a group of networked soft objects that communicate to one another based on qualitative attributes of touch (*how* inter-actors touch the objects).

Please refer to my online web CV for complete citations, projects and supporting materials including video, image galleries, and full descriptions of credits.

<http://www.sfu.ca/~tschiph/>

<http://whisper.iat.sfu.ca>