ARTIST'S NOTE

MINDtouch: Embodied Mobile Media Ephemeral Transference
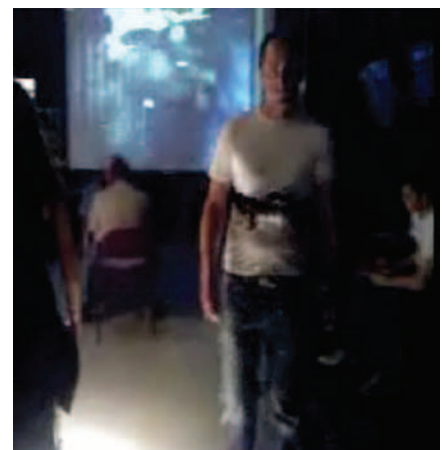
Camille C. Baker

ABSTRACT

This article reviews discoveries that emerged from the author's *MINDtouch* media research project, in which a mobile device was repurposed for visual and non-verbal communication through gestural and visual mobile expressivity. The work revealed new insights from emerging mobile media and participatory performance practices. The author contextualizes her media research on mobile video and networked performance alongside relevant discourse on presence and the embodiment of technology. From the research, an intimate, phenomenological and visual form of mobile expression has emerged. This form has reconfigured the communication device from voice and text/SMS only to a visual and synesthetic mode for deeper expression.

MINDTOUCH: MOBILE MEDIA RESEARCH

With the *MINDtouch* project I sought to explore embodied, non-linguistic [1] interaction through the use of wearable, biosensing devices and mobile phones. These served as the "interfaces" to remotely connected media experiences within performative social events. My aim was to investigate how people "connect to each other" through technology, in un-conventional (non-verbal/non-textual) ways, in a simulation of synesthetic dream exchange. With this project I sought to understand how bodily sensations, perceptions and responses might be meaningfully utilized to find unique ways to visualize body/mind activity and to experience that activity in a collaborative performance environment. I propose the mobile videophone as a means to communicate non-verbally, visually and sensually across distance. In this project I explored notions of ephemeral transference, distance collaboration and participant-as-performer as means to study the experience of "presence" and "liveness" through mobile technologies within real-time performance contexts.

In this performative research project I developed a series of live, iterative and in-person participatory social events using mobile technologies. The five performative social events took place from July 2009 to spring 2010. These "scratch" or performance experiments involved improvisation while generating live, collaborative visualizations. Participants were guided through specific activities developed to intensify their embodied interaction and engagement. Mobile video clips (Figs 1 and 2) were triggered and mixed by biosensors receiving data from participants' bodies. The participation by in-person and remote interactors was combined by a daisy chain of technologies through the network space. The various aspects were woven together by computer and smartphone code that enabled the phones and sensors to communicate with one another in as close to real time as possible. Using live body data (breath, muscle activity, temperature and galvanic skin response), con-current streams of mobile video were mixed into a multi-threaded, non-linguistic, collaborative, visual dialogue that enabled an embodied, meaningful and personalized exchange between remote participant groups.

THEORY IN PRACTICE

Conceptually *MINDtouch* was about c*onnection*: connecting ideas, experiences, body and mind, technology and art with contrasting philosophical and theoretical concepts. It was about connecting databases, using digital networks and streaming video to create participatory performance with mobile phones and body data. Most of all, it was about connecting people with each other in intriguing ways. Notions of presence, liveness and embodiment were connected and interwoven concepts, as each were about sensing others—whether in the room or across vast distance—in near-to-real-time [2]. My primary concern was with sensing at a distance and how it could be done with our mobile technologies to exchange more familiar experiences, such as vivid dreams, preconsciousness and emotive or visceral sensations, which are hard to express or share other than in their true experiential form. Three domains were manifested in the project: the digital, the body and ephemeral consciousness. Philosophical threads of extending

Fig. 1. Still from participant video made during the July 2009 first performance. (© Camille Baker)

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Fig. 2. Still from participant video made during the July 2009 first performance. (© Camille Baker)

the here-and-now, being or taking place in the moment, in front of an audience (as in a conventional performance) or remotely (such as a live TV broadcast or online). Liveness is intertwined with time and/or space and physicality simultaneously, usually with someone witnessing it. Yet for *MINDtouch* it was not a priority that it be experienced in the same physical locale as the event itself, or "in the flesh." However, the event had to be experienced as taking place *now* and witnessed *now*, in real time or within seconds of the event. Real-time streaming video was the primary mode of expression, engagement and embodiment, used to enable liveness and presence to be sensed during the mobile social events, as well as to externalize the internal sensations of participants within live, social and mediated environments.

The interpretation of embodiment I used was that the mind has an elastic ability to move beyond the boundaries of the skin, which enables someone to send their presence across a distance. This elasticity is both inside and out, crossing the boundaries of the senses [3], so that the senses function separately from each other, entirely outside of consciousness (and outside of one's awareness), but not detached entirely from the body. The influential argument by philosopher Don Ihde [4] holds that technology and the body meet and interface to extend beyond the skin and enhance our engagement with technology in the process. Paul Dourish [5] has argued that people can embody the technology they use within certain contexts and in various manifestations. He focuses on the idea that ephemeral "beingness" or (tele) presence of being, without a physical skin encasement, manifests when users engage in certain activities such as using a flight simulator for pilot training or in videogaming [6]. Richardson [7] posited

consciousness and embodying technology through the network connected these notions. They were demonstrated through practical exploration and playful activities throughout the duration of the project. I felt it was critical to find ways to simulate, emulate and facilitate connections between participants, aiding them to sense presence, co-presence, collaboration and/or liveness of others during the mobile social events. My aim was to observe and understand how or whether people could connect to each other by sending the other's presence through mobile video over the network as a creative visual simulation of an abstract dream exchange.

Over the last 10 years or more, people have augmented or maintained emotional connections over distance through virtual presence (i.e. Skype, SMS, text messaging, etc.). We experience this connection inside ourselves, as the rest of the world is experienced—through our bodies and sensations. Thus, we experience sensations when we are connected to others emotionally, whether they are in the room, on the phone or across the world—we "feel" people in our bodies since we feel these intense sensations through regular contact with them. For *MINDtouch* participants, wearing the biofeedback sensors during live events was meant to induce and capture sensations of connection and "feltness." These biosensing devices were to connect participants in a more intriguing embodied modality, making the live connection into a more physicalized connection. They were to sense each other by sending their body data through the network to "touch" one another and, through the video expressions of their body sensations, "breathe" life into the mobile video. This created a feedback loop of
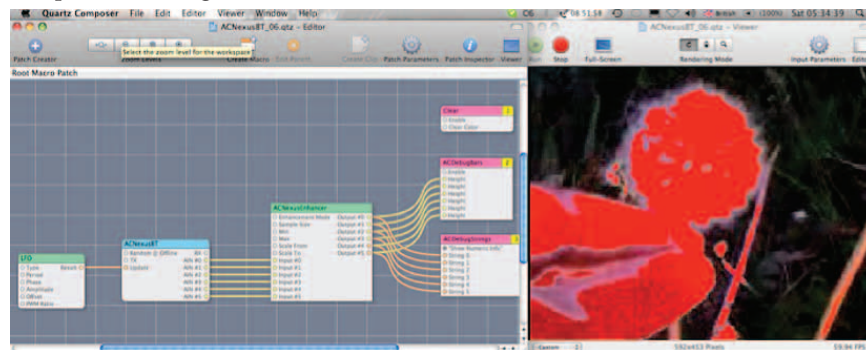
body-to-body connection, with a digital translation of personal experience. Body data and bodily activity were processed through custom software and then used to trigger the video mixing. The wireless sensors were the "interface" that translated the embodied data into the non-linguistic visual expressivity of the re-mixed video. Mobile networks acted as the invisible threads connecting people using this new visual exchange. Thus, sensation was transformed, transduced or translated into a digital video to allow participants to "touch" and "play" with others, to locally and remotely interpret conscious and synesthetic experiences of another's internal world using the external environment and mobile video. Yet instead of a verbal or gestural language, the immediate surroundings of the body, the architecture and the landscape within the frame became personal experience enfolded into the visual language of a mobile video collage.

The notion of liveness here includes the sense of someone or something being "in-person," physically present, in

Fig. 3. Screenshot from the custom biofeedback visualization software made in Quartz Composer for mixing mobile video, 2008. (© Camille Baker)

that a form of non-corporeality and presence exists within virtual contexts. She suggested that this form arises during invisible exchanges of sentiment, such as during online chat and text messaging [8], through a digital mode of projection, or by sending consciousness using technology as the conduit. From these theories, it could be said that embodiment is (1) being in the body and the mind/body integration and (2) being in the body, but also sensing and extending the mind beyond the skin, during dreams or in altered states, virtual technological space or other modes of consciousness [9]. These ideas all informed my research process as well as the exploration of technological embodiment during the mobile media events.

I used participatory performance in *MINDtouch* as a way to enable people to explore embodying technology and sending their own sensations over distance. It also served as a way to (re-)engage people with the physical world using the media tool. Boal's *Theatre of the Oppressed* [10] became my essential guide to using theater games, facilitating engagement and clarifying ways to motivate participants. His techniques provided a critical framework that guided me as I asked participants to connect with their bodies, to tune into themselves and to interpret their own perceptions and sensations for creative visual expression.

My interest in non-verbal, visual communication was piqued when I was facilitating activities during the video collection workshops and observed participants repurposing the phones. Surprising methods of communicating through gestural imagery emerged when participants were asked to express their perceptions using their videophones. They used movement and physicality when exploring ways to represent their internal experiences, exploiting the

Fig. 4. Still image from the live mixed collage, output for the custom mixing software, 2009. (© Camille Baker)

external space and its visual elements. The size and portability of the mobile phone easily enabled this behavior. Using the videophones and imagery to speak for them, participants drew upon the visual material in their environment to create their video expressions. Those with prior knowledge or experience of visual or cinematic language found ways to create a visual meaning from the raw environmental materials, constructing communicable video "sentences" or "utterances" [11]. These activities resulted in a novel mode of non-verbal expression and emotive interchange—more than any professional, staged performance or video production could have realized.

Mobile images are often experienced as personal, intimate [12] and private. Once they are sent, their immediacy feels like blowing a kiss to another or sharing pieces of yourself through the network. Thus, if a text message is like thought transfer, then an image or video is like sending your sight, visual experiences, thoughts and feelings, as well as your unique expression, perception and perspective. It is a more intimate, phenomenological and everyday-life document, which the ordinary person can relate to. Hence, it feels more "real" (authentic), as it is imbued with memory and emotion. Owing to its lower-quality image, mobile video encourages a more personal, non-expert, "every-person," frank expression, not possible with professional-quality HD or 3D video image. The advanced image and video capabilities of the latest mobile phones inspired participants to be more creative and playful, while enabling a level of engagement and mobility not possible with a desktop computer. I valued the mobile phone in this project for its innate encouragement of spontaneity, its close relationship to the body and its compelling ability to go anywhere with people. It seemed a natural vehicle to engage people in performative and creative activities—to use their most closely held and fetishized technological objects to play, collaborate and sense each other over distance.

Mobile media phones for *MINDtouch* acted (1) as a conduit for non-literal or abstracted, non-verbal expression of experience and as an extension of the body/mind for participants and (2) as a vehicle to express inner sensations between participants. It was not about the mapping dimension of mobile devices but instead about the fascination with the embodied possibilities of mobile media or the "situatedness" [13] of a person and their experience, as well as their attentiveness to themselves and the space

Fig. 5. Still image from the live mixed collage, output for the custom mixing software, 2009. (© Camille Baker)

or locativeness within their own bodies. This sometimes involved the participants "mapping" their body parts or creating abstracted "mappings" of their internal thoughts, emotions or physical sensations (Fig. 3).

The final mobile media "performances" manifested as events that utilized the database of archived video clips from the previous workshops. As this primary series of mobile media social events were developed and iterated, changes were made for the next event based upon participants' feedback from previous events. Some participants, wearing biosensors embedded in custom garments, "performed" or "VJed" the visuals, creating unique "mixes" with their body data. During the live events, the customized mobile software went through a series of interactions, triggering the video clips from the server (see Fig. 3); then these modified visuals were streamed back to the remote and local audiences and viewed as a collaborative, nonlinear montage or "remix" installation. In the live setting, video mixes were displayed on an LCD monitor or projection for the local group and streamed for remote participants to view online or on their phones. The final live collage (Figs 4–6) could be seen as converging distinct technologies and practices for a collaborative visual performance and global mobile-cast, or a conversation between the participants' bodies, the mobile video makers and the remote audience.

CONCLUSIONS

In the *MINDtouch* project I was able to bring together diverging areas of new media research and media art/performance practices. *MINDtouch* provided new methods for working with wearable devices and mobile phones, using participatory activities and video in performance. New processes emerged that

Fig. 6. Still image from the live mixed collage, output for the custom mixing software, 2009. (© Camille Baker)

helped people to tune into their bodies and to translate their sensations and perceptions visually and playfully using their mobiles devices. During the process a new mobile media screen aesthetic was revealed. The project changed people's relationship to mobile devices to enable a new non-verbal interaction.

The research also revealed methods to embody technology and transmit presence and emotion remotely to loved ones and friends, through a new mobile visual modality. I discovered that this extension of presence can be done consciously and that directed emotional, interpersonal connections can be transferred through mobile devices when facilitated by certain activities. With intent and desire to connect, participants demonstrated that they could send and transform their presence through the device, as one does through Internet engagement. Thus, it became clear that we can embody or send our presence over distance through our mobile technologies, beyond the typical voice and text modalities.

The project was a success because it achieved the goal of weaving together diverse technologies, practices and ideas to connect remote groups and enable them to find new ways to engage with each other creatively, affectively, expressively and visually. The project also revealed new ways to think about these concepts within the digital media context.

References and Notes

Unedited references as provided by the author.

1. This means there was no sound or speech to be heard in the videos, but more importantly, participants were guided to create the mobile videos without speaking at all.

2. Defining "live" and "real time" is complex, but for this article "real-time" can be defined as the actual time that an event is unfolding—as it is happening, or as close as possible, given network complexities.

3. Johansson explains Serres's theory of "The Five Senses: Philosophy of Mingled Bodies," which says that tactility is "the most fundamental sense of the human soul and its experience of itself and its environment" (Johansson, T.D. "The Tactile Image: A Veronican Approach to Pictoriality in Michel Serres's Aesthetics of the Senses," *Sense and Senses in Aesthetics,* Backstrom, P. and Johansson, T.D. [eds.] NSU Press: Helsinki, Finland, 2003, p. 143, [paraphrasing Serres]), and that this can be extended to how we experience images. He states that tactility encompasses all senses and that photography and cinematography are physical impressions of the referential world or a "true image of reality" presented on a "membrane" or skin (p. 144). Thus, "a tactile image being a medium of (physical) impressions and emotions, of impressions of the physical world and their implications for sensation" (pp. 144—145).

4. Ihde, D. *Bodies in Technology,* Electronic Mediations series, Vol. 5, University of Minnesota Press: Minneapolis, Minnesota, 2002.

5. Dourish, P. *Where the Action Is: The Foundations of Embodied Interaction,* The MIT Press: Cambridge, Massachusetts, 2001.

6. Dourish [5].

7. Richardson, I. "Mobile Technosoma: Some Phenomenological Reflections on Iterant Media Devices," *Fibreculture Journal 2005, Issue 6: Mobility,* New Social Intensities and the Coordinates of Digital Networks, 2005 [online] Available at <http://six.fibreculturejournal.org/fcj-032-mobile-technosoma-some-phenomenological-reflections-on-itinerant-media-devices/> (accessed 10 June 2007).

8. Richardson [7].

9. Here "virtual" is in the digital and online context.

10. Boal, *A. Theatre of the Oppressed,* Routledge: London and New York, 1992.

11. Johansson [3].

12. The term "intimacy" is used here in a generic sense, meaning closeness, private, personal, familiar, in relationship to or on the body, or between two bodies/people in relationship.

13. In Don Ihde's sense that "to be situated entails that the knower is always *embodied*, located, *is a body*"; Ihde [4] p. 68.

General Bibliography

Auslander, P. *Liveness: Performance in a Mediatized Culture.* Routledge: London and New York: 1999.

Baars, B.J. "In the Theatre of Consciousness: Global Workspace Theory, A Rigorous Scientific Theory of Consciousness," *Journal of Consciousness Studies,* Imprint Academic: Exeter, U.K.; 1997, Volume 4(4), pp. 292–309.

Christensen, M.S. *As We May Feel: Interpreting the Culture of Emerging Personal Affective Mobile Media,* Ph.D. Dissertation, Denmark: Department of Innovative Communication at the IT University of Copenhagen, 2006.

Manovich, L. *The Language of New Media,* Cambridge, Massachusetts: MIT Press, 2001.

Massumi, B. *Parables for the Virtual: Movement, Affect, Sensation,* Duke University Press: Durham and London, 2002.

Sheldrake, R. (2003), *The Sense of Being Stared At: And Other Aspects of the Extended Mind,* New York, NY: Crown Publishers.

Camille Baker is a media artist-performer/researcher/curator working within various art forms: mobile media, participatory performance, electronic and e-fashion, interactive installation, live cinema, responsive environments, telematics, video art, and music performance. She has presented at workshops, festivals and conferences around the world.

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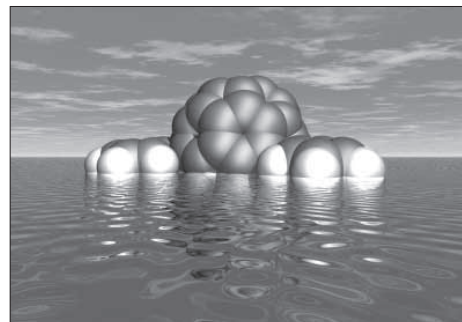
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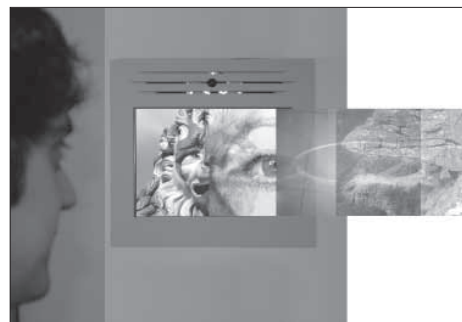(© Betsy Damon)

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