

# Generating Virtual Environments for Playful Touch Interactions: Touch Terrain

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## Abstract

This paper discusses *Touch Terrain*, a collaborative project developing a multi-participant mixed reality performative environment. We are invested in designing and choreographing experiential interfacings, that raise the stakes for the role of corporeality within hybrid domains. In a world and media arts dominated by audiovisual media, we depart from a reversal of the main static sensorial hierarchy of vision and sound, and instrumentalized touch and kinaesthesia, wanting to contribute to a more inclusive approach to immersive interactions. Following from a previous project, *Blind Date*,<sup>7,8</sup> we emphasize the role somatic and tactile senses in the construction of an embodied awareness of ourselves, one another, and the world, questioning how all the senses, feelings and awarenesses connected and affect our general mood.<sup>1</sup> With *Touch Terrain* we work on challenging participants to engage in a playful corporeal immersive experience that raises their awareness by destabilizing their autonomic/automatic sensorial and perceptive interconnections. Emeshing another technological interface, such as VR glasses, into the naturalized eye-body-world interface, and with it another (simulated) body and environment, we are interested in the information systems' possibilities to instigate awareness and deeper/joyful experiences of our corporeality, expanding embodied communication in less categorized/ techno biased and profit driven ways. Thus, through various computer vision combined and connected systems — VR glasses, mocap sensors, data-gloves and webcams — the project is a challenge to address the body and embodiment out of univocally over-sexualized cultures of porno, sports, violence, publicity, and much art appeal. This paper discusses some of the crucial aspects in the ongoing creation of the work. How can we build such inclusive and playful hybrid physical-virtual-simulated environment, where vision emerges from and reverts to participants' tactile engagements? How can

this investment facilitate (intelligent) inter-subjective embodied experiences, contributing to rise awareness about and change Cartesian and luddite attitudes towards our *posthuman condition*?<sup>4</sup> Will it raise the urgent agency towards embodied communication within intermedia environments, if only from the perspective of amplifying real life experience?

## Addressing corporeal experience in immersive environments' choreographic design

*Touch Terrain* goes back to Melanitis' performance installation *Pleasure Machine*, in which a dancer with some VR glasses performed movements remotely instructed by a user manipulation of a sticky figure, in an ironic commentary of the master/slave model.<sup>(7, 8)</sup> Then, in *Blind Date*, our initial collaboration, this user/dancer imposing interaction was duplicated and expanded including the possibility of touch. With *Touch Terrain* interface research, the hybrid environment is enhanced by a 3D space and avatars (*Figure 2*), which participants can manipulate through their embodied and tactile experience.

In this effort to create playful as well as challenging situations out of VR and tangible and mediating touch interactions, *Touch Terrain* relates to renowned works, such as *Osmose* (Davies, 1996), *BodyMaps: Artifacts of Touch* (Schiphorst, 1996), *Telematic Dreaming* (Sermon, 1999), and *TGarden* (Sponge / foam, 2001). *Touch Terrain* attempts to complicate the crucial issues raised by such works. By combining of VR interfaces and computer vision systems applications, it further questions subjective and inter-subjective normative modes of human-computer-human interaction, mostly based on culturally constructed ideologies: embodiment, virtual/body image representation — gender, ethnicity, health and aesthetics.

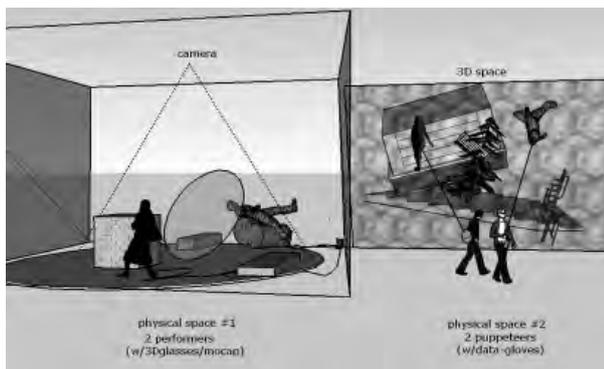


Figure 1: Environment design for Touch Terrain



Figure 2: Avatar for Touch Terrain

Through isolating and recombining sensorial / perceptive relations in specific mediated interactions, *Touch Terrain* proposes other types of socializing situations which enable the enactment of hidden embodying possibilities, addressing issues related to both experiencing and representing our, other bodies and spaces/places as ourselves.

Like in *Blind Date*, the experience is projected for 4 participants, 2 performers and 2 puppeteers in 2 separated though remotely connected spaces and physical interfacing situations. Wearing VR glasses, the 2 performers enter space #1 (*Figure 1*: physical space #1), seeing nothing but a small distant avatar within an empty VR space. This avatar is not their 3D representation, but that of the other performer in the shared physical-simulated spaces. Whereas they affect the movement of their avatar, perceivable only by the other, the 2 puppeteers are in front of a screen projection of the VR space (*Figure 1*: physical space #2) wearing data-gloves and playing with altering the avatars' visual attributes (dimensions, color, sex) by moving their fingers. Suggesting skin color, body fat, proportion of parts, we want that the puppeteers' (morphing) gestures put into play notions of mutable constructed bodies and subjectivities these biased identity and cultural features trigger.

Compelled to engage with the avatar, the only VR spatial reference, the performers will advance in space. Reaching, with their limbs, they will meet objects. These touched objects will generate their VR landscape elements. A galaxy of flowers might appear. Will they be distracted into a spatial engagement and moving them, as they lose visibility of the avatar with the appearance of these elements? Moving them out of the way they might get in physical touch with the other performer. Possibility which will bring them to see their own avatar. By keeping and prolonging this touch through time and body parts they will witness their avatar gaining shape and morphing (by the puppeteer). This experience inevitably addresses the cultural taboo associated with touch.

Mostly related to the childhood darkroom hide-and-seek game, where one player tries to find and recognizes one of the other players through touch, in *Touch Terrain* the performers "are blinded" to the physical space, yet, this situation is chosen to purposefully heighten their kinaesthetic awarenesses and knowledge by physical touch and movement.

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- 8 <http://people.brunel.ac.uk/bst/vol04/index.html>
- 9 <http://geocities.com/melanitis2001/home2.html>