Proprioceptive Sense in an art installation: AmputationBox

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1. Introduction
AmputationBox is an interactive art installation that blurs boundaries between virtual, networked and physical worlds. AmputationBox is also simply a box with a hole on the top. Participants can put their hands into the hole. Every object poked into the hole is visually amputated and redisplayed as virtual organism: creeping or flying flesh. The amputated flesh parts are displayed simultaneously in two different locations: the physical installation and the online website (www.amputationbox.com).

In this way, physical and online spaces form a continuum. Interaction with a physical AmputationBox automatically alters website content. The intent of the work is to make palpable the interconnectivity of physical space and networked reality. Symbolically, AmputationBox functions as an aesthetic meditation upon how after death our body parts are redistributed into the earth; by instantaneously and imagistically depicting this transformation it is hoped it will provoke momentary epiphanies.

2. Proprioceptive Implications
Proprioception is the inner (introceptive) sense that tells you how your body is oriented in space, and where its’ parts are. AmputationBox plays with the proprioceptive sense: it amputates parts of the body and redisplay them. Participants perceive their hands conjoined, flying, separated from the body yet still responsively connected to it. The exterior of the body enters the interior of the machine; body parts become proto-organisms in a computationally generated environment. Blurring the diffused line between self and other, (and self and landscape) a destabilization of normative embodied perceptions is initiated that precipitates a relaxing of the sense of self. Proprioceptive awareness bifurcates as it follows the external trajectories of its own limbs. AmputationBox investigates the body as image and asks: what happens when corporality is reincorporated computationally both locally and online?

3. System Setup
AmputationBox is a big box (size: 24*24*24inch) with a 49 inch LCD screen. The box has a hole in the top to allow hands to enter the interior. Inside the box, a green screen (size: 23*21inch), florescent lights with diffusion filters, and a CCTV camera are installed for real-time chroma-keying. Users can reference their movement seeing a small screen on the top of the box. The AmputationBox is created based on evolutionary design [1], which means that the artists did not pre-design creatures, but the design of the creature really depends on the interaction of the visitors. The video processing software Max/MSP detects video motion, chroma-keys out the background, and extracts a PNG sequence with a transparent alpha channel. This image sequence automatically uploads and is integrated dynamically (as flying critters) into a local and online Flash interface. Amputated parts are flipped, duplicated and converted into winged 'critters' that populate the display screen environment. The website contains and redisplays a reservoir of everyone who has been amputated.

4. Conclusions and Future Work
AmputationBox suggests a visual paradox: amputated integration. In addition, AmputationBox is concerned with computational reincarnation: birth, death, and digital rebirth and how each physical body is part of a larger cultural networked body. In this poster paper, we presented only the hand amputation box. In future work, we plan to create other boxes for other body parts: fingers, face, arms, and legs. Further exploration on the relationship between virtual organism and real world interaction will be conducted.

5. Reference

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