Digital Homeostasis: Tangible Computing as a Multi-Sensory Installation

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Abstract : This paper explores computation as a process for design by examining how computers can become more than an operative strategy in a designer's toolkit. It documents this, building upon concepts of neuroscience and Antonio Damasio's Homeostasis Theory, which is the control of bodily states through feedback intended to keep conditions favorable for life. To do this, it follows a methodology through algorithmic drawing and discusses the outcomes of three multi-sensory design installations, which culminated from a course in an academic setting. It explains both the studio process that took place to create the installations and the computational process that was developed, related to the fields of algorithmic design and tangible computing. It discusses how designers can use computational range to achieve homeostasis related to sensory data in a multi-sensory installation. The outcomes show clearly how people and computers interact with different sensory modalities and affordances. They propose using computers as meta-physical stabilizers rather than tools.

Keywords : algorithmic drawing, Antonio Damasio, emotion, homeostasis, multi-sensory installation, neuroscience

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