On the Designing and Prototyping of Kinetic Objects. In A. Ursyn (Ed.), Biologically-Inspired Computing for the Arts: Scientific Data through Graphics (pp. 267-277).

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Abstract

MSOrgm (Huang, 2009), SSOrgan, and LBSkeleton (Huang, 2011) were created to contain computation, aesthetic, and structural characteristics to employ physical kinetic motion to embody and communi- cate to people. MSOrgm raises its branches when it senses someone who is looking at it. MSOrgm was developed as a robot plant to interact with the viewer in a soothing way; it uses transformable module to build interconnected fabric and produce unexpected behavior. SSOrgan provides a novel tangible interaction, which generates color in response to touch. SSOrgan is an artificial skin system composed by dense individual sensing module; it creates the responsive behavior executed by its external contact and its internal computing mechanism. LBSkeleton explores a mutual interaction that happens between "the piper and the snake" — through the change of the sound performance that should triggered by body movement reflectivity. LBSkeleton shows a kinetic structural system, which is engaged with the sensor networked framework and the origami tessellation module to perform a kind of growling behavior with sound. These works bring the specific type of modeling, controlling, and interacting on the designing of the kinetic creatures. The artworks are bringing novel user experiences with the biomimetic mechanism in a space.

Keyword：New media art, Artificial-life art, Physical computing, Kinetic/transformable design