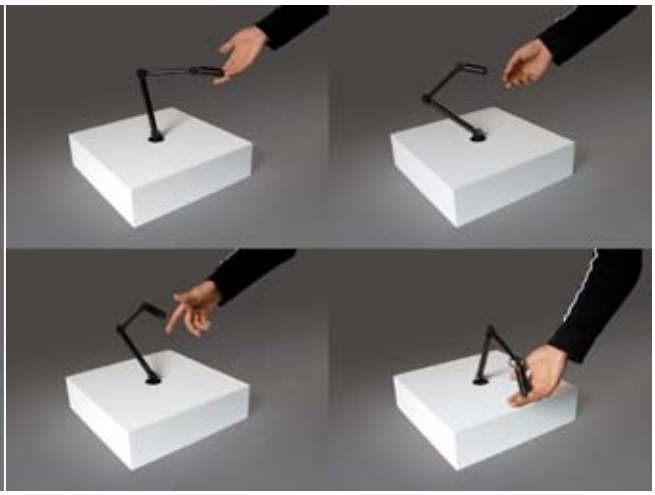
Outerspace

Reactive Robotic Creature

A project by Andre Stubbe and Markus Lerner,
Berlin University of the Arts, 2004

www.outerspace-robot.com



At a glance

Outerspace is a reactive robotic creature with animal-like behaviour. It was designed in collaboration with Andre Stubbe. Outerspace's fundamental motivation for any behaviour is based on curiosity, the desire to explore the surrounding space looking for contact. Touch it, play with it and watch its behaviour.

The project is at the edge of art and design involving various aspects of industrial design, physical computing & artificial intelligence.

It was developed on the brief "Lustobjekt", object of pleasure & desire, in the Digital Media Class at the Berlin University of the Arts. It was supervised by Prof. Joachim Sauter, Prof. Frank Fietzek, Karl Heinz Jeron & Ralph Ammer.

Curiosity

The movements of Outerspace are based on its curiosity in exploring the surrounding space. It looks for light, motion, finally contact.

As he finds something interesting, this again increases its curiosity, to find out even more. The same thing happens in the mind of the observer, when he approaches the object.

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Inspiration

The basic form is motivated by insect antennae that are able to make flexible movements in order to explore the environment. Outerspaces broad repertoire of motion actually originates from animals, both in the behavior of single organs and body language. At the same time, human gestures are part of the motion patterns of Outerspace.

Formal reduction and graphical abstraction invoke a wide scope of interpretations

Technology & Materials

The body consists of three limbs, fibreglass pipes, connected by joints. Four servo motors control these limbs over wires and pulleys, three for the joint movements and one for the vertical rotation.

The head, the uppermost limb, carries 5 photo sensors used as eyes for brightness and simple motion recognition. All limbs have capacitory sensors that react to human body contact.

Two BX-24 microcontrollers are used for input and controlling of the motors. The controllers are conntected to the serial ports of a PC, where all calculations are made by special Java software.