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Touchy, feely structure

BUILDINGS are not renowned for their ability to express obsessive, arrogant, sulky or playful behaviour, but one architect thinks they should and has built a computer-controlled structure that displays all these traits.

Ade Adekola is interested in intelligent buildings that can sense people and their surroundings and interact with them. To demonstrate his theories he has built, with a grant from Sheppard Robson Architects, a moving structure that changes shape in response to interactions with people. It is called a self-inducing device, or SID.

SID is a flexible mast that resembles a spine. It is held upright with 12 cables connected to 12 tensioning arms arranged in a ring around it. On each arm is an electrically controlled solenoid which can draw in or let out its cable. A tilt sensor on each arm also provides information on the structure's position. A collection of 12 buttons are linked, via a computer, to the solenoids.

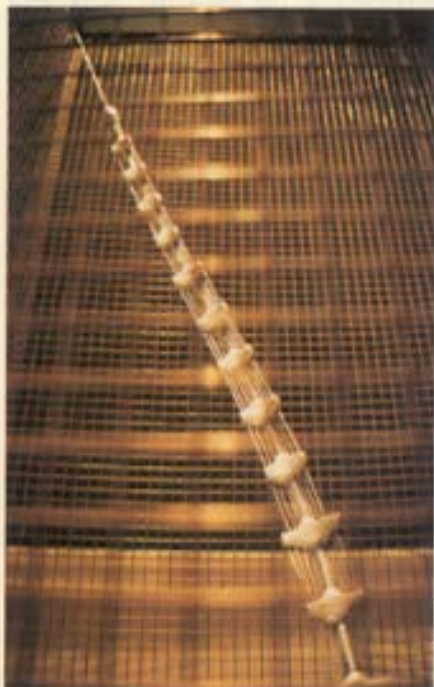
SID embodies the basic characteristics of a living system, Adekola says. It

senses its environment through the 12 buttons, acts upon that information through the solenoids and has self-awareness through its tilt sensors.

But the *raison d'être* of SID is to interact with people, so if left alone the computer directs it to move in a seductive manner, what Adekola calls its "luring" mode. If people continue to ignore it, SID regresses in behaviour through a series of modes: distress, sulking, arrogant and obsessive. In its final obsessive stage it ignores any interaction it is offered.

However, if someone does press a button before it becomes obsessive, SID begins to backtrack through its modes, past "luring", until it reaches "playful", when it is directly controlled by the person. But once in playful mode, it is dumbly reacting to the person's button-pushing so Adekola expects people to become bored, walk away, and SID to regress again.

Adekola is now working on a flat membrane that reacts to touch and other stimuli and has its sensors and actuators embedded in the structure. □



Ade Adekola

Alone again: SID sulks if kept at arm's length