

Floribots

by Geoffrey Drake-Brockman 2005

Floribots is an interactive collective organism consisting of 128 robot flowerpots equipped with telescopic stems and origami flowers. Each individual flower starts as a green bud - which can then grow to its full height and suddenly bloom pink and yellow. Soon afterwards, the bloom will wither back to its flowerpot and return to a bud state.

The behavior of the overall Floribot matrix is influenced by the 'mood' of its hive mind. This mind runs on an embedded microcontroller located in one of the flowerpots. The Floribot mind can sense audience movement via eight infra-red motion detectors that are positioned in special "lookout flowers" - two of which are positioned along each outward face of the Floribot matrix.

Floribot moods include the following:

Reactive: when a motion stimulus is detected, the Floribot matrix dances a wave sequence – the nature of which depends on the position of the stimulus. Repeated stimuli at the same locus tend to produce diminishing amplitude wave reactions - as the mind becomes increasingly accustomed to a stimulus in that location.

Excited: when the overall level of repeated stimulation reaches a threshold the system performs a special 'Excited' semi-chaotic dance sequence.

Bored: when the overall level of stimulation drops below a threshold - because there have been few audience interactions for a period - Floribots becomes 'bored' and performs a particular dance to attract audience attention.

Naughty: when Floribots has been Bored for a period, and has not been able to attract audience attention in order to re-commence interaction, it enters a transitional 'Naughty' state and performs a characteristic movement sequence.

Asleep: once Floribots has passed through the Naughty state, it eventually 'Falls Asleep', unless audience interaction recommences. When Asleep, Floribots sets its flowers to a pre-determined sleeping position, and goes into low power consumption mode. After a short time of complete rest, Floribots will again become sensitive to movement, which if detected will cause it to wake up instantly.

Wake Up: When awoken by movement or being turned on for the first time, Floribots will perform a special 'stretching' wake up sequence before entering Reactive mode.

Blip: While waiting for a stimulus, Floribots occasionally performs a quick single movement, just to let us know that it is 'still awake'.

Combinations of these moods and transitions between them create Floribots overall behaviour pattern. Sometimes mood behaviours can partially overlay each other and give rise to 'emergent' patterns and expressions.

The artist was assisted by:

ArtsWA, OneSteel, JED Microprocessors, Altronics, and his extended family.