Aesthetically Evolved Virtual Pets Video

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Abstract

Based on a derivative of Karl Sims' Evolved Virtual Creatures, this video illustrates twenty-two creatures that were evolved by hand, based on aesthetic selection for form, movement, color, and color flow. When creatures are evolved by hand, we can bond with the creatures in the process of creating them. This document describes a video of creatures, many of which have been previously described only with text and still images.

Introduction

This work has been previously described in detail (Ray 2001), so here I will only describe what is contained in the video. All of these creatures are contained in the zoo of the VirtualLife software which is available for download at this location: http://life.ou.edu/VirtualLife/

The bodies are composed of segments which are either boxes or ellipsoids. The creatures are grouped below based in part on which of these two forms the segments take. Also, the colors manifest by each segment can either be determined by the angles on the joints between segments, or on output from special color producing neurons. In the latter case, color reflects the internal state of the creature. The creatures listed below are also grouped in part on whether color is controlled by joint angles or neurons. Some creatures are visibly sensitive to touch, and they are also grouped by this quality.

Ellipsoid - Neuron

0:00 AnemonaeNeuron.gen
0:08 CoilFlower01.gen
0:17 FlowerWave33.gen – no color change, but great movement
0:30 CoilFlower02.gen
0:43 FlowerWave36.gen
0:55 FlowerWave73.gen – good flow of inner glow and movement
1:11 CoilFlower06.gen – smooth color changes, accelerates with movement
1:23 FlowerWave47.gen – double recursion, color flows down both chains
1:34 FlowerWave56.gen – good series of color flows, sometimes blows up

Box - Neuron

Not Touch Sensitive:
1:47 ColorFlowB54.gen
1:57 ColorBiFlow14.gen – strong forward flow with periodic pulsing, weak backflow
2:07 ColorSense01.gen – complex color changes
2:17 ColorSense02.gen – evolved one step from 01, no flow, but rich color dynamics

Touch Sensitive:
2:27 ColorFlowB28.gen – touch sensitive, color flow, x increases flow, z decreases flow
2.37 ColorBiFlow09.gen – touch sensitive, flat body, slow swimmer
2:47 ColorSense04.gen – when pulled in +- x, rapid rainbow flow

Box - Joint

Exploding, or Not:
2:56 Ladder13.gen –   fast explode
2:57 LittleArmShakey.gen
3:12 MagnetsNew.gen
3:22 Magnets02.gen
3:37 Ladder13.gen

A creature with complex behavior:
3:51 Twister02.gen

References

Ray, T. S. 2001. Aesthetically Evolved Virtual Pets. Leonardo 34(4): 313-316. Available at: http://life.ou.edu/pubs/alife7a/