

## **Art Feature for 2008: Electric Sheep**

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The cover designs are still images from the Electric Sheep, a distributed screen-saver that harnesses idle computers into a render farm with the purpose of animating and evolving artificial life-forms. The votes of the audience of 50,000 users form the basis for the fitness function for a genetic algorithm on a space of abstract animations, each known as a "sheep". Users also may design sheep by hand for inclusion in the gene pool, so crowd-sourcing, or intelligent design, collaborates and competes with evolution.

The images were drawn with the Fractal Flame algorithm, a generalization and refinement of Iterated Function Systems. Essentially the images are interference patterns between groups of nonlinear geometric transformations of the plane. The hundreds of floating-point parameters of these transformations comprise the genome of each sheep. This nonlinear map from genome to image defines a visual language, whose search and incantation brings the machine to life.

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