



**evoColorBox
(Artwork)**

Topic: Fine Art

Author:

Philip Galanter

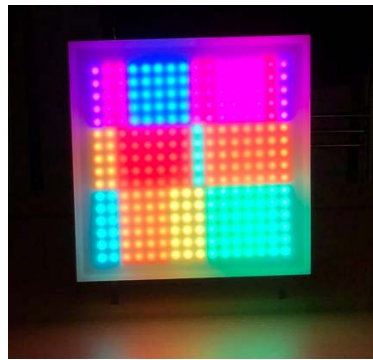
USA, Texas A&M University, Department of Visualization
www.tamu.edu

Abstract

Human artists typically work within a feedback cycle of creation, critical evaluation, more creation, more evaluation, and so on. Generative art for the most part ignores the evaluation aspect of human artistic practice. In particular, evolutionary computation, genetic algorithms, etc. have been hobbled by the lack of fitness functions that measure aesthetic quality. Because aesthetic fitness has yet to be automated, putting an artist in the evolutionary cycle as a manual fitness function creates the so-called “fitness bottleneck.”

evoColorBox is a small light sculpture that visually evolves color palettes using standard color theory rules for color harmony as a fitness function. Each performance starts with entirely random genes and usually takes about 10 to 20 seconds to evolve, and then a new performance begins.

evoColorBox displays 16 color palette chromosomes shown as 16 columns that are in genetic competition with their nearest neighbors. If a neighbor has a higher fitness score, then one of its color genes will be substituted in the chromosome in question. If the chromosome in question is more fit than either neighbor it will attempt to improve itself via mutation.



Note Regarding Installation: This work requires one wall socket for power, and can be mounted on the wall with small wood screws. I will also have a stand for table top use, but the wall is better.

galanter@tamu.edu

Key words: Artificial intelligence, color theory, computational aesthetic evaluation, evolutionary computing

Main References:

- [1] Philip Galanter, “*Computational Aesthetic Evaluation: Past and Future.*” in “*Computers and Creativity.*”, Springer, Berlin, 2012
- [2] Philip Galanter, “*Mini-XEPA: an installation of collaborating intelligent light and sound sculptures.* in *Proceedings of the conference on Electronic Visualisation and the Arts.*”, BCS Learning & Development Ltd, London, 2017