cgen.dlang

A Community Generated Design Language

Erick O. Oduniyi, Hamza T. Chaudhry
ai.art Research Laboratory, USA

Abstract

This design project aims to integrate ideas from cultural evolution, machine learning, and generative design to construct a conceptual foundation of language evolution. Through the use of genetically-inspired optimized automatic speech recognition-hidden Markov models (GMM-ASR-HMM) and generative adversarial networks (GAN), people independently input personal aesthetic preferences to generate geometric visualizations. The design system runs on a mobile Linux-based computing system, where individuals choose the characteristics of the symbol displayed (i.e., color, complexity, shape, and amount) through a graphical user interface. In doing so, participants collaborate with and contribute to an ever-evolving design by providing individual input into the system's growing collection of preferences. The aggregated preferences reflective of the communities' aesthetic value are captured as a latent variable in the mathematical model. This design system can be generalized to track and model other forms of language evolution.