Computational Creative Experiments in the Development of Visual Identities.

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Abstract

The democratisation of creative tools has created an unstable professional environment and a degradation of Graphic Design artefacts. However, we believe that creative computational tools will have key importance in the future of the profession, allowing for the development of more replicable, scalable, and user-oriented work. Therefore, we propose a creative computational experiment to develop a visual identity generator that uses an Evolutionary Algorithm to simulate the traditional design process.

Introduction

Nowadays, the computer is the primary tool of production in Graphic Design (GD) and digital media design is one of the more attractive design fields [Blauvelt, 2011]. However, the democratisation of creative tools has lead to a floating and unstable professional environment, which has promoted the appearance of crowdsourcing platforms for creatives, such as 99Designs [Shaughnessy, 2012]. In these platforms, a user can submit a proposal and have "dozen of designers" work for them, albeit, generally, the outcomes appear to be no more than "template-based designs." We believe that the future of the profession will depend on creative computational tools. These tools will enable the creation of replicable, scalable and more audience-oriented work. This way, the graphic designers will become mediators between the tools and the clients [Armstrong et al., 2012]. With this in mind, we have developed an Evolutionary Algorithm (EA) that creates visual identities through a set of sensations defined by the user. The system replicates a process like creative crowdsourcing platforms where several "candidate proposals" are developed/generated and iteratively evaluated.

Approach

In his book *Designing Programmes* (1964), Karl Gerstner presents the design process as the simple act of picking out determining elements and combining them. On this principle, we have developed a proof-of-concept for a semi-autonomous visual identity designer/generator, which by means of an EA, can generate logotype designs. The system works in a semi-autonomous way wherein the user defines, a priori, a set of sensations that the outcome should transmit (e.g. age, luxury, complexity, etc.). The system consists of two main modules: (1) the "creative" that is responsible for the development of the logotypes; and (2) the "appraiser" that assess the designs generated by the "creative," according to the relationship between its elements and the data defined by the user.

Each logotype is represented by a shape, a lettering style, and a set of stylish elements. In this initial setup, we defined five shapes and six lettering styles that can be combined in two distinct positional styles. Aside from this, the logotype can to be adorned with different stylish elements (inner stroke styles and decorative elements). With this, the "creator" module is responsible for the initialization of a logotypes' population and, subsequently, for the implementation of the recombination and mutation operators. The "appraiser" module assess the fitness of the candidate solutions and selects the best outcomes for the "creator" to continue designing. Each candidate solution is evaluated according to the relation between the graphical elements in logotype and the relation between the graphical elements and the criteria added by the user at the start. At this stage, the value of the relationship between each element, and between an element and a sensation, was predefined by us and introduced in the system via an external database.

Conclusions and Future Work

Although this project is still a work in progress, and the outcomes need to be evaluated in a real-world scenario, the current outcomes present a good basis for the continuation of work on this topic. Future work will include the increase of element sets in the system and the inclusion of autonomous learning modules in the system.

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