A color schemer for webpage design using interactive mood board.

Gu, Zhenyu; Wu, Zhanwei; Yu, Jiamin; Lou, Jian


Summary: In this paper, we present a web tool called Webpage Color Schemer (WCS), which enables people to easily redefine an existing webpage’s color scheme. WCS can adapt the webpage’s color scheme towards a new visual effect expressed nonverbally with an interactive mood board, which is actually a collage of sample images or design examples reflecting designer’s preference. WCS is simple and fun to use. It has two major functionalities: an interactive mood board with a color quantization algorithm for extracting color themes; A genetic algorithm for generating best assignment of the theme colors from the mood board to the web page, with respect to necessary design objectives. The objectives are formulated as fitness functions for the evolutionary optimization. Our initial experiments show that three fitness functions are essential for the color scheme optimization: histogram evaluator, contrast evaluator and harmony evaluator, to make sure the scheme has a preferable color tone, legible contrast ratio and harmonious color matching, respectively. The evaluators are generally devised in the light of some well-established color design theories. Some efforts of this research, however, has moved towards using computational model to uncover design knowledge depositing in large set of design cases. WCS uses a kind of RBF network predicting proper contrast ratio of certain class of page elements, regarding its measurable features and context. The performance of the model is encouraging.

Keywords: Website color; Adaptive webpage scheme; CSS
doi:10.1007/978-3-642-39232-0_60