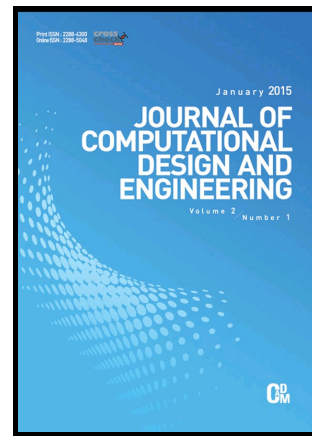


Author's Accepted Manuscript

Visualizing Color Term Differences based on
Images from the Web

Nobuyuki Umezu, Eriho Takahashi



www.elsevier.com/locate/jcde

PII: S2288-4300(16)30010-0
DOI: <http://dx.doi.org/10.1016/j.jcde.2016.08.002>
Reference: JCDE67

To appear in: *Journal of Computational Design and Engineering*

Received date: 11 January 2016
Revised date: 29 June 2016
Accepted date: 22 August 2016

Cite this article as: Nobuyuki Umezu and Eriho Takahashi, Visualizing Color Term Differences based on Images from the Web, *Journal of Computational Design and Engineering*, <http://dx.doi.org/10.1016/j.jcde.2016.08.002>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and a review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Visualizing Color Term Differences based on Images from the Web

Nobuyuki Umezu^{a,*}, Eriho Takahashi^a

^a*Ibaraki University, 4-12-1 Nakanarusawa, Hitachi, Ibaraki 316-8511, Japan*

Abstract

Color terms are used to express light spectrum characteristics captured by human vision, and color naming across languages partition color spaces differently. Such partition differences have been surveyed through several empirical experiments that employ Munsell color chips. We propose a novel visualization method for color terms based on thousands of images collected from query results provided by an image search engines such as Google. A series of experiments was conducted using eight basic color terms in seven languages. Pixel values in the images are counted to form color histograms according to the color pallet used in the world color survey. The visualization results can be summarized as follows: 1) Japanese and Korean color terms have wider distributions in the color space than terms in other languages do and 2) color visualizations for color terms pink and brown are affected by their links to proper nouns.

Keywords: color terms, world color survey, image search engines, color visualization

1. Introduction

Color is an important attribute for various fields such as human modeling, user interaction and experience, human factors, and aesthetic design. Product colors often considerably affect on their sales, and the use of appropriate colors in websites is a key to the website's usability. For particular scenarios, colored signs in particular circumstances have extremely high significance,

*Corresponding author (phone:+81-294-38-5262)

Email address: nobuyuki.umezu.cs@vc.ibaraki.ac.jp (Nobuyuki Umezu)

Download English Version:

<https://daneshyari.com/en/article/4952952>

Download Persian Version:

<https://daneshyari.com/article/4952952>

[Daneshyari.com](https://daneshyari.com)