

Colour theory and its effects on web users

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ABSTRACT

Rarely do colors appear alone. They are normally used in different combinations. Since the number of colors is very large, the number of color combinations is almost infinite. Consequently, it is difficult to investigate how people perceive and evaluate color constellations in various contexts. Color serves as a means of communication. E. g. On the streets and highways, a red traffic light tells drivers to stop, and a green light tells them to go. Color plays an important part in the development of web-based systems and mobile applications since it affects how users perceive the content on the web pages.

KEYWORDS: colour, colour theory,

INTRODUCTION

“ Color wields enormous sway over our attitudes and emotions. When our eyes take in a color, they communicate with a region of the brain known as the hypothalamus, which in turn sends a cascade of signals to the pituitary gland, on to the endocrine system, and then to the thyroid glands. The thyroid glands signal the release of hormones, which cause fluctuation in mood, emotion, and resulting behavior.” (Patel, 2016)

This in turn affects how users respond to your website and the likelihood of the users coming back to use the system. Colour may also influence your branding depending on the choice of colours used.

Colour is influenced by natural occurrences that tend to be universal. The emotions elicited by cultural and psychological factors can obviously vary

from culture to culture and this affects how users from different cultures interact with your website.

RELATED WORK

What is colour theory?

Color theory is a set of principles used to create harmonious color combinations pleasing to the eye and senses. It provides us with a common ground for understanding how colors can be used, arranged, coordinated, blended, and related to one another. Color theory is about why some colors work together aesthetically, while others do not. Thus, it's about color mixing and the visual effects of color. (study. com, 2017)

Color Theory: Structure

Color theory is built upon three basic components:

- Colour wheel.
- Colour harmonies.
- Colour context.

Colour Wheel.

The traditional color wheel is based on the 12 colors found in the visible spectrum. It's a basic tool for combining or mixing colors and an easy way of understanding how colors relate to one another. (study. com, 2017)

FIG 1. 0

A color wheel has three different types of colors; primary, secondary, and tertiary. Primary colors (red, yellow, and blue) cannot be created by other colors. Primary colors can be used to make the secondary colors (green,

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orange, and purple). Combinations of secondary colors can be used to make the tertiary colors (yellow-orange, red-orange, red-purple, blue-purple, blue-green, and yellow-green). (study. com, 2017)

Color Harmonies.

The color wheel helps one understand colors themselves. Could the color wheel guide someone toward understanding combinations of colors?

In color theory, color harmony is the basic technique used to create combinations of colors. (study. com, 2017)

FIG 2. 0

There are four kinds of basic color schemes when using the color wheel:

1. Monochrome – various tints, shades, and saturations of a single base color. This method provides a cohesive look, but it can become monotonous.
2. Complementary – based on two colors from opposite sides of the color wheel. This offers a contrast with a big impact, and works well for buttons and objects that need to stand out.
3. Analogous – three colors that sit next to each other on the color wheel. These colors have a tonal similarity, which provides a cohesive, unified feel.
4. Triadic – three colors at the points of an equilateral triangle drawn in the center of the color wheel. This will be perceived as diverse, yet balanced.

Color harmony is the process of matching colours and creating a colour scheme. A colour scheme or a set of colours selected is an important function of the colour wheel. When determining which colours match (or clash) with each other, the colour wheel can provide users with a set of basic rules and several predefined colour schemes. (study. com, 2017)

Colour schemes consist of two, three or four colours based on their position in the colour wheel. E. g. Complementary Colour Scheme consists of two colours located directly opposite from each other on the colour wheel. When complementary colours mesh with each other they are known as analogous colours. (study. com, 2017)

Colour context.

Colour Context also known as (Simultaneous Contrast). This is observing the effects colours have on each other. This is the starting point for understanding the relativity of colour. The relationship of values, saturations and the warmth or coolness of respective colour hues can cause noticeable differences in how users perceive and react to the colours. (study. com, 2017)

COLOUR INFLUENCE.

We experience color as a fundamental quality in our visual perception. Based on an overall impression, the eyes receive information regarding the aesthetics, material characteristics and utility of a web page or component in a web page. Since color selection itself has a great impact on the way users perceive the utility of a web page, it contributes to the physiological and physical well-being of the system's users. (Won & Westland, 2016)

VISUAL COMFORT

What is visual comfort?

In order to understand more about visual comfort, we need to first understand the meaning of this term and the variables that interact with it. Visual comfort exists when the perceptual faculties in the human brain can operate without interference. When there is no inhibition of perception, the basic functions of the eyes, such as vision, speed, and contrast sensitivity are optimized. This optimization of the basic perceptual functions is very important while perusing optimal working conditions. Some factors that can inhibit perception in an interior setting include incorrect distribution of light density, glare, poor color selection, and inappropriate interior design.

(RiosVelasco, 2016)

METHODOLOGY

HOW DOES COLOUR CHOICE AFFECT THE USERS OF A WEB BASED SYSTEM OR A WEBSITE.

When coming up with a website or a web based system, it is important to take many things into consideration. The key factors to be considered include: A proper page layout that will ensure users can interact with the site easily, the proper content that will be useful to the users and finally the underlying technology that will give the best possible user experience to the site visitors.

The above can be systematically achieved by: Using colors that will leave the correct impression to the sites visitors and users. These are colors that when put together make the site feel more natural and friendly. If the combination of colors is wrong, it might make users feel uncomfortable and probably

never visit the site again. Accessibility is also a key factor to consider. The color choice should ensure that everything on the site is legible and clear in such a way that the users and visitors feel comfortable when reading the page.

HOW TO CHOOSE COLOURS FOR A WEBSITE OR A WEB-BASED SYSTEM.

When choosing colors, the best place to start is with an established color that is connected to your organization, such as the color associated with your university. This color will be used as your base color, and you will tailor your other color choices to it. After you have your base color, you will select a contrasting color to act as your accent color. This will be used sparingly in your website; this color can be useful if you need to add a button for your user to interact with. (Berry, 2017) In addition to the base and contrast colors, a well-designed website uses neutral colors for its content. Generally, you want three neutral colors for your webpage; a white, a dark gray, and a light gray provide a good balance of color. When applying these techniques to your web page, you usually want to follow a 30-60-10 rule. Where 30% of your webpage is your base color, 60% is your neutral, and 10% is your accent color; the other neutral is used as your text color. (Berry, 2017)

HOW TO CHECK IF YOUR WEBSITE HAS THE CORRECT COLOUR COMBINATIONS.

In order to ensure that your website is accessible and usable by all users, it is wise to ensure that the color combination picked contrasts well. For example: White text will stand out against a dark blue background when used in buttons. On the body, a white foreground with black text will stand out against a dark grey background. In the case that we have used any <https://assignbuster.com/colour-theory-and-its-effects-on-web-users/>

graphics, it is important to choose a color that will contrast with them properly.

Once the website is complete, it would be wise to test if we have met the standards for accessibility of a web page. This will be done by opening the page in Adobe Photoshop and converting it to grayscale. This is done to ensure that visitors and users will not have a hard time reading and interacting with the site. Color and contrast are key components of usability; text legibility is dependent on the reader's ability to distinguish text from the background of your site.

CONCLUSION

In any webpage in a web-based system or a website, color is the first thing any visitor or user notices. The choice of colors used serves as a clear image of your organization, institution or brand. It is therefore of utmost importance that the colors used make a user or visitor feel welcome to your website and the organization, institution or brand. Note that colors can trigger emotions and feelings such as:

- i. Comfort
- ii. Warmth and Openness
- iii. Strength and performance

Thus use of highly contrasting colors is recommended since it ensures legibility of your website for anyone who visits it.