

# A Study on Colors Used for the Costumes of Characters in Online Games

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## I. Introduction

Computer games, that provide their users with sentiment and sensibility, education and learning, and relaxation, are one of the 21<sup>st</sup> century's fast growing industries. In particular, they are, as an idea business with high yield, further developed into visual industry and software industry as well. Especially, PC games are imaginary playing tools that are designed to offer entertainment to the users through personal computers. These PC games are categorized as package games, network games and on-line games. Among them, the on-line games are designed to be played with the connection through network. Accordingly, all the information regarding the players are stored in a computer server (or servers). This is the most active type of PC game these days.

Graphics that design the whole visual image of the games must be considered the most important design factor. Therefore it plays the biggest role in the overall game design and very important in marketing areas. While components of a game are story, background and characters, design of game graphic consists of character art, background art and animation art. Among these three factors, the characters determine the overall atmosphere of the games. Character art is one of the most creative areas where many game characters are designed and created. Game characters must be very interactive, not just passively moved, meaning that a game player (or gamer) must be able to manipulate the characters very interactively as if these two are in one body and accordingly the characters are alive. In this context, the game characters are not just role players who merely lead the games, but regarded as messengers of human communication that breathe and think the same way as the gamers and therefore partly reside in our lives.

Colors are not only core of visual cognition but also deeply affect the human sentiment. In addition, colors have such abilities to draw attention, to associate with a certain object, to strengthen the memory of an object, to create aesthetically pleasant atmosphere, and some psychological ability. Furthermore, the different colors used for the characters make a distinction in terms of identity among the characters, which are represented by the costume worn by the characters along with their styles. Accordingly, colors of the costumes are not merely visual factors, but

the colors are deeply related to the human sentiment and their meaning and symbolism are important.

Considering the fact that the computer games including on-line games are prevailing worldwide and the number of gamers, it is obvious that the computer games are the extremely powerful media with faster and more various spreading ability than any other form of media. Furthermore, as the costume of game characters reflect new culture and value through background or story of the games, the costume can be a part of important new cyber culture in modern society. Therefore, this study is intended to analyze the colors used for the costume in the on-line game characters in an effort to research on the modern cyber culture.

## **II . Methods**

To analyze the characteristics of the colors used for on-line game characters, this study selects the costume worn by those characters that are currently present on the on-line game sites in year 2004. To be more specific, those games ranked 1<sup>st</sup> through 30<sup>th</sup> in the internet game rank charts and in the monthly game magazines in June and July of 2004 are selected.

Colors are collected through the images of characters from the artwork sections including the main screens of each game site. In addition, the colors actually worn by the characters are also collected. These colors are sub-divided into main colors, sub colors and accent colors by using the grid of the screen. The characteristics of the hue are analyzed based on achromatic colors and the 10 colors of the Munsell System, and those of color tone is analyzed based on NCD's 12 colors and 5 achromatic colors.

## **III . Results and Conclusion**

Conclusion of this study is as follows:

1. Total 707 colors collected from the costume of on-line game characters consist of 479(67.8%) chromatic colors and 228(32.2%) achromatic colors. The achromatic colors are further divided into 5 categories, which are 86(12.2%) whites, 34(4.8%) light greys, 33(4.7%) medium greys, and 25(3.5%) dark greys - total 92(13.9%) gray colors - and 50(7.1%) blacks. Neutral group colors appear the most frequently. Among chromatic colors, 127(18.0%) yellow group colors are ranked as the most frequent ones, followed by 84(11.9%) reds and 68(9.6%) yellow reds. These three color groups represent 39.5% of the total colors (both chromatic and achromatic) and 58.2% of chromatic colors. On the other hand, in terms of single color, purple blue is ranked number one with 43(6.1%) followed by purple with 36(5.1%) and blue with 33(4.7%). These three colors represent 15.9% of the total colors. It is believed that such warm colors are more frequently used than cold colors since the warm colors shed stronger images than the cold colors.

2. Grey is used most frequently as a main color for the game characters. Next colors are yellow, red and yellow red. For the sub color, grey, yellow and white are the most frequently

used ones in its order. The reason why grey is the most popular color for both main and sub colors is that many of the game characters are either warriors or soldiers who wear armor suits. On the other hand, grey is rarely used for accent color. The most frequent accent color is yellow group and also white and red groups are also preferred at the same rate. This is because of the brilliant image of yellow and red. White is frequently used for trimming of the costume.

3. Although chromatic colors appear evenly, vivid tone and pale tone colors are relatively frequently used for main colors whereas vivid tone is prevailing for accent colors.

4. In terms of color tone by hue, those frequent colors of red, yellow red and yellow appear in all spectrums of color tone. red appears in strong and vivid tone, yellow in bright and vivid tones, and yellow red in dark, deep light greyish and vivid tones. Accordingly, it is identified that color hue is used in significant relation with color tone.

As a Conclusion, instead of various color being used, such colors with strong image as red, yellow red and yellow are preferred along with neutral color group in order to present color contrast effect. In addition, as high chroma colors, eg, vivid tone, strong tone and bright tone, are mostly used in the on-line game costume, more various colors needs to be further developed.

This study is limited to analyzing the colors used for the on-line game characters' costume, and accordingly not suitable for further researching on the costume themselves. The following study may require to expand the study object, ie, areas of computer games. In addition, a further study is necessary where not only colors but also costume lines or silhouettes are analyzed from overall perspective.

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