

Postupak ocjene doktorskog rada

DOKTORAND/ICA:	Ivana Pavlović, dipl. ing.
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NASLOV RADA na hrv. jeziku:	Utjecaj promjena kanala zapisa na interpretaciju fotografske slike
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NASLOV RADA na engl. jeziku:	Impact of the channels changes on the interpretation of photographic image
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SAŽETAK:

Uloga fotografske slike je privlačenje pažnje i, posebno kod promotivne primijenjene fotografije, prijenos informacije. Zbog svoje reproducibilnosti u tiskanim i elektronskim medijima i ikoničkog karaktera fotografije kao medija, ali i konkretne fotografske slike, tj. karaktera slikovne informacije kojoj konzumenti vjeruju, fotografska slika je najčešći dvodimenzionalni statični medij prijenosa informacija slikom. Digitalni zapis fotografske slike se sastoji od plavog, zelenog i crvenog kanala zapisa. Promjenama vrijednosti kanala se može utjecati na sintaktička i semantička svojstva, odnosno na percepciju, a time i interpretaciju fotografske slike.

Kroz disertaciju se definiraju granice promjena plavog, zelenog i crvenog kanala digitalnog zapisa unutar kojih se zadržava ikonički karakter fotografske slike te se unutar tih granica određuju promjene vrijednosti pojedinog kanala kojima se ciljano utječe na njenu percepciju i interpretaciju u uvjetima optimalne i metamerijske konzumacije.

Istraživanje se temelji na vizualnim procjenama ispitanika i primjeni mjernih metoda. Vizualne se procjene provode temeljem fotografskih slika realiziranih na kalibriranim izlaznim jedinicama u standardnim uvjetima promatranja (ISO 3664 : 2009). Za potrebe se istraživanja snimaju testne fotografije odabranih motiva i sintaktičkih postavki. Tako se dobiveni digitalni zapisi učitavaju u program za obradu te se, kao i standardna tablica boja, obrađuju promjenama vrijednosti plavog, zelenog i crvenog kanala. Za dobivene se digitalne zapise u istom programu određuju L, a i b vrijednosti boja iz kojih se računaju ukupne razlike boja te se analiziraju histogrami fotografskih slika.

Temeljem provedenih istraživanja potvrđeno je da se promjenama vrijednosti R; G i B kanala digitalnog zapisa fotografske slike u definiranim granicama zadržava njezin ikonički karakter uz utjecaj na percepciju i interpretaciju te slike, da te granice ovise o motivu i sintaktičkim postavkama fotografske slike te da je promjenama vrijednosti kanala zapisa unutar zadržavanja ikoničnosti moguće optimizirati fotografsku sliku za uvjete konzumacije.

Ključne riječi: fotografija, percepcija, R,G,B kanali, male promjene kod R,G,B kanala, portretna fotografija, fotografija pejzaža, fotografija hrane

ABSTRACT:

The role of the photographic image is to attract attention, and especially in the field of applied promotion photography transferring information. Due to its reproducibility in print and electronic media, and the iconic character of a photograph as the medium but also the specific photographic image, ie. image information which consumers find trustworthy, the photographic image is the most commonly occurring static two-dimensional medium for image information transfer.

A digital record of photographic image consists of blue, green, and red channels. Changes in the value of the channel can influence syntactic and semantic properties as well as the perception, hence the interpretation of the photographic image in general.

Throughout the thesis, the deviation limits of blue, green and red channels of the digital recorded image within which the iconic character of the photographic image is retained are defined. Within these limits the values of a single channel which targetly influences its perception and interpretation in terms of optimal and metamer consumption are determined.

The research is based on visual assessments of the respondents, and the application of measurement methods. Visual assessments are performed on the basis of photographic images realized on calibrated output units under standard observation conditions (ISO 3664: 2009). For research purposes three test photographs of selected motifs and syntactic settings are taken. The digital records obtained are loaded into the processing program, and same as the standard color table are processed by changes of blue, green, and red channels. Using the same program for obtained digital records L^* , a^* , and b^* values of colors are determined, from which the total color differences are calculated, and histograms of photographic images are described Visual assessments are carried out

by experts in the field of applied photography, and respondents without any such direct experience but with an interest in visual communications and photography

Since the digital record of the photographic image consists of a blue, green, and red channels, color changes can be targeted at the stage of processing the digital image record by changing each channel. By changing the channel i.e., by amplifying or weakening it to a certain percent, the photographic image still retains its iconicity though its interpretation changes. This way the photographic image is consumed under different conditions i.e., its optimal interpretation and perception can also be influenced under metamerism conditions.

Three thematically different motifs were used in the dissertation, from which three different examples were taken for portraits, processed with and without selection of a particular part of the photo, a total of 6 photographs. For the photo of the landscape, three examples of photographs processed without selection on the entire surface of the image were taken, and for the photo of the food three examples were taken, one of which was processed with selection and without, one separately without selection and one separately with selection. After amplifying and weakening each channel separately of each individual photo, a total of 13, each photo had 24 variations alongside the original photo which was the first phase of the work. After the realization of test images, photographs were further implemented through the following six phases: the selection of test photographic images, the selection of test photographic images that meet the condition of retaining iconicity, the assessment of the interpretation of test photographic images, the retention of the iconic photographic images in the metamerism conditions of consumption, measuring tests and determining the correlation between the change in perception and interpretation by changing the value of the channels.

Based on the conducted research, it has been confirmed that changes in the value of red, green, and blue channels of the photographic image digital record retain their iconic character within the defined boundaries, with the influence on the image perception and interpretation. Moreover, it has been confirmed that these boundaries depend on the motif and syntactic settings of the photographic image, and that with the changes in the value of red, green and blue channels one can optimise the photographic image for the conditions of consumption, while retaining the photograph iconicity.

Keywords: photography, perception, R;G;B channels, small changes in R,G,B channels, portrait photography, landscape photography, food photography

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