

## W1.1 2005 - 015

### Color Rendition Teleconference, May 11, 2005

Present: Susan, Frans, Dmitri

#### Agenda:

- 1) Color Quantization
- 2) The Color Fidelity Experiment - next steps including selecting an image set

#### Discussion:

- 1) The teleconference began with a discussion of the paper in the Journal of IST (Jan/Feb 2005) on perceptual color contouring by Kuo and Ng of NexPress. Franz liked how they looked at a wider range of the gamut than we have been considering to date. Dmitri commented that a scanner-based metric for contouring would make implementation easier. Susan is to talk with CK further on this work.

Continuing on the quantization topic, Susan then expressed concern around repeating the initial experiment because the results did not look so promising; the correlation between observed contours and  $\Delta E$  or  $\Delta L$  was not strong enough to be a predictor. She suggested that we might want to scan the images and look for edges or local contrast and determine if this provides a better correlation. Franz suggested that some  $\Delta E$  metric might correlate with susceptibility for contouring. He also suggested that we add a smaller target to be more representative of actual practice than the serpentine target, though it could be retained and used for measurement. He added that the scanner could be used to understand what is going on at the boundaries (though it would not be as accurate). Susan reported that the CIELAB SCID image set is available for our use. As reported in the previous meeting, the CIELAB SCID images lack outdoor scenes and are limited in skin tones. Helen had suggested the "Bridge" image from a GATF image set and she has now circulated a thumbnail of this image. Susan then discussed an article in the same issue of JIST as discussed above (Jan/Feb 2005) by Fernandez et al on regional differences in color preference. (Franz suggested that we may want to set up a "library" to hold such articles of interest.) Briefly, observers were asked to adjust the color of soft-copy images until they felt it was the best that it could be. The authors then looked at intra- and inter-observer variability as well as regional differences in the preferred renderings of the images involved. The images with the most stable positions were one of a model, one of three children, one of horses nibbling green grass under a blue sky, and one of a clown. Susan found the inclusion of a clown surprising, though there was a lot of white in this image. She suggested that our image set should be one that comprises images that exhibit relatively stable preferred color positions. The images in the reported experiment that had the least stable preferred color positions included a mountain scene and a church with green grass and flowers in the foreground and blue sky in the background. It may be that including outdoor scenes is not important, or even desirable since there appears to be such a wide

range of preferred color positions for such images. Dmitri suggested that for such images, colorimetric aims may be needed since preference vary so greatly. Susan is to look at the variability for each image in our color fidelity experiment.

Actions:

- Each to consider possible variations to be made to each original image to generate a larger, more controlled set of renditions for the Color Fidelity work
- Susan is to talk with CK regarding his perceptual color contouring experimentation
- Susan is to look at the variability for each image in our color fidelity experiment

Next Meetings:

- May 25, 2005
- June