Visual Ergonomics and Aesthetics in Electronic Imaging
SC899

Starting from the observation that the use of space, color and typography in text and images as can be seen on the web, on TV, in videotex (in Europe), at conference presentations, and in printed matter often is far from optimal, the course aims at giving writers and editors of such material sufficient knowledge to avoid large errors that will impede legibility and visibility on these text and image-rendering media. Moreover, three different causes for these errors will be uncovered. The course will focus on giving and explaining rules for:

1. the legibility of text as a function of characteristics including font type and size, foreground and background luminance and color, the role and value of luminance and color contrast, and layout factors;
2. legibility and meaning of icons/ symbols/ pictograms as a function of size and internal structure;
3. the role of text color in association with parts of text with the same color by perceptual grouping, accentuation of small parts of the text with a color differing from that of the surrounding text, categorization of parts of the text by coding them with differing colors, and facilitation or inhibition of reading through the generated impression of orderliness or chaos by the amount and distribution of different colors on the display;
4. planned and unforeseen special effects of color, such as color stereoscopy;
5. interaction of spatial, typographical and color effects whereby one or more of the just described effects may be counteracted; and
6. the 'bipolarity' of utility and attractiveness in a number of cases, such as color in reading; structured vs. 'plain' backgrounds for text; matte vs. glossy display screens and -bezels; and transparency vs. 'prettiness' of screen- and magazine pages.

Examples of these cases will be given, featuring 'good' and 'bad' ones.

LEARNING OUTCOMES
This course will enable you to:
• make a motivated selection of foreground and background color pairs in multi-colored text
• apply correct basic layout principles for text, such as an appropriate line length/distance ratio
• distinguish between more and less legible fonts, with a reasoning based on sound knowledge of design parameters such as acceptability and discriminability of character configurations, and specify the required character size for various purposes
• create better posters for conference presentations
• define the "aesthetics-utility axis" in a number of imaging situations, as well as indicate a desirable position on that axis for different purposes

INTENDED AUDIENCE
This course will benefit lecture and conference presenters, web site and portable device page designers (both professional and non-professional), videotex editors, and anyone who wants to develop the ability to design, judge and/or criticize visually presented material containing text and pictures. Attendees will benefit from some prior knowledge of vision and parameters of images such as fovea, peripheral vision, subtended angle, luminance, hue and saturation of colors.

COURSE LEVEL
Basic L. van Ness

COURSE LENGTH
Half-day (3.5 hours); .35 CEU

INSTRUCTOR
F.L. van Nes is Professor Emeritus of Information Ergonomics at Eindhoven University of Technology, Eindhoven, Netherlands. He received the PhD in visual psychophysics from Utrecht University. Dr. van Nes designed and experimentally tested the IPO-Normal character set applied in Philips Electronics' Computer Controlled Teletext chip, which was used worldwide by all TV set manufacturers. He presently serves as convener of the ISO Working Group "Visual Display Requirements."