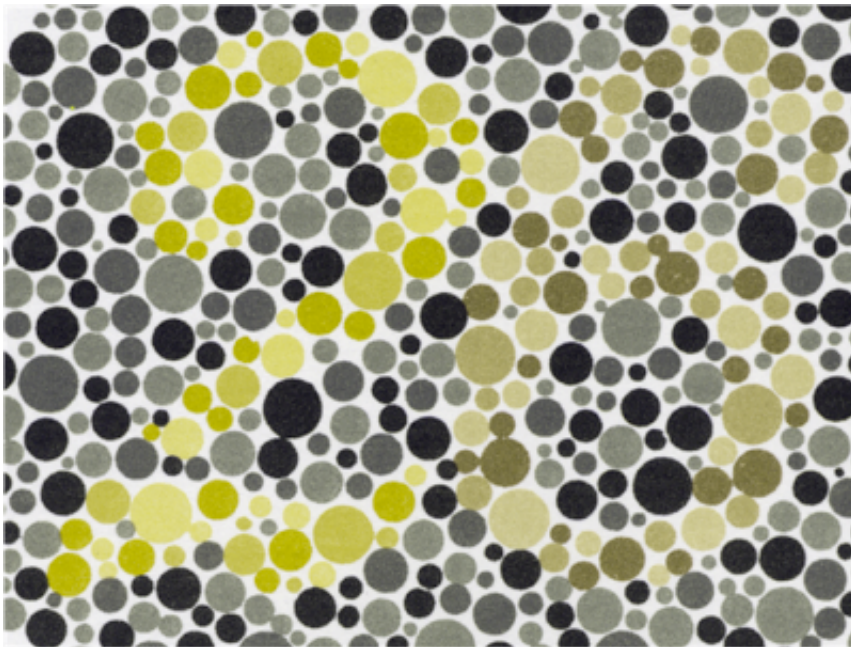


# TV viewing support for color-blind emerges with Eyeteq

December 4 2014, by Nancy Owano

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Simulated Colourblindness: Eyeteq ON

UK-based Spectral Edge has made its technology available for set-top TV boxes so that viewers who are color-blind can differentiate shades alongside viewers who are not color-blind. Eyeteq is the name of their "mathematical image processing technology," designed to enhance color-rendering so that color-blind people see more color. The technology uses mathematical perception models to modify image colors; it is suitable for both still and moving images. The tech works by enhancing certain colors in an image.

Talking of the company's roots, John Walko of EE Times said Spectral Edge was "established to further develop, exploit, and commercialize image fusion technology devised at the Color and [Vision](#) Group of the School of Computing Sciences at the University of East Anglia (UEA), Norwich." Color-blindness is not rare; the EE Times presented the numbers as 1 in 12 of the male population globally (or the 1 in 200 females) There is a market in turn to help viewers who may not be seeing the true color picture on their screens. (According to the Colour [sic] Blind Awareness site, in Britain alone there are approximately 2.7 million color-blind people, most of [whom](#) are male.)

BBC News noted how the technology alters colors frame-by-frame without spoiling them for the non-color-blind. The company said that with their perception models, they can remap colors to maximize discrimination but at the same minimize the strength of the effect for non-colorblind people. "In mathematics we call this a perceptually-weighted regularized joint optimization methodology operating on local scale," said Spectral Edge. A demonstration app for Eyeteq can be downloaded. They offer the free app so that people can explore Eyeteq and what it can do. One can select from a number of test images and apply Eyeteq at different strengths. According to the company, red-green color blindness is the most common form of [color blindness](#).

Dave Lee, BBC technology reporter, said Wednesday that the technology had now reached proof-of-concept stage. Spectral Edge's Managing Director Christopher Cytera said that "The next step is to refine and upgrade that proof of concept." They want to get the technology from where it is now, working at 720p [resolution](#), to 1080p. Lee said that Spectral Edge then plans to license the technology to manufacturers to include in new televisions. Cytera also said in the BBC report that he hoped his company's [technology](#) would become a "badge of honor" for manufacturers promoting accessibility credentials.

Quoted in the EE Times, Cytera said, "There has been a lot of effort to [improve](#) accessibility for other groups, such as those hard of hearing, with great advances in sub-titling, but little progress in this area."

**More information:** [eyeteq.spectraledge.co.uk/home](http://eyeteq.spectraledge.co.uk/home)

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