IMAGE MANIPULATION TECHNIQUES USING MATLAB

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ABSTRACT

Colors can be added to grayscale images in order to increase the visual appeal of these images. The task of "colorizing" a grayscale image involves assigning three dimensional (RGB) pixel values to an image which varies along only one dimension (luminance or intensity).Hence rather than choosing RGB colors from a palette to color individual components, we transfer the entire color distribution of the source to the target image by matching the luminance information between the images. High Dynamic Range Imaging (HDRI) is a set of techniques that allows a greater dynamic range of luminance (the range of values between light and dark areas of a scene) than normal digital imaging techniques. The intention of HDRI is to accurately represent the wide range of intensity levels found in real scenes ranging from direct sunlight to shadows. Information stored in high dynamic range images usually corresponds to the physical values of luminance or radiance that can be observed in the real world. This is different from traditional digital images, which represent colors that should appear on a monitor or a paper print. We describe a process for creating an image mosaic—a collection of small images arranged in such a way that when they are seen together from a distance they suggest a larger image. To visually suggest the larger form, the small images are arranged to match a large picture as much as possible, and then their colors are adjusted to better suggest the overall form. Here arrangement of the small images is automatic.

KEYWORDS: Grayscale, RGB, HDR, Imaging, Luminance Mosaics