

ABSTRACT

The use of color in image processing is motivated by two main factors. First, color is a powerful descriptor that often simplifies object identification and extraction from a scene. Color image processing is divided into two main areas: full-color and pseudo-color processing. Until recently, most digital color image processing was performed at the pseudo-color level. However, in the last decade, color sensors and hardware for processing color images have become available at reasonable prices. The result is that full-color image processing techniques are now used in a wide variety of applications, including publishing, visualization and the Internet. So a color mixing system in the screen printing industry is needed in order to answer the need to simplify and streamline the production process. In the screen printing industry, mixing colors using a method that is still manual, and also the naked eye as a measure of color similarity is very ineffective and inefficient. This really hampers the screen printing process, and will cause less than optimal results. So a color mixing system in the screen printing industry is needed in order to answer needs and simplify and streamline the production process. The author will design a color mixing system with the KNN (K-Nearest Neighbor) classification method. The system will require input in the form of RGB and will be converted into a pantone palette color code, so that screen printers do not need to mix colors manually or guess again, but already with definite data. The color mixing system using the KNN (K-Nearest Neighbor) method can achieve an accuracy rate of 95%. This will greatly help screen printing actors both in terms of color accuracy and also a more effective and efficient time.

Keywords: color mixing process, manual screen printing, color mapping