INFLUENCE OF LIGHT SOURCE COLOR ON AN EMBEDDED IMAGE CAPTURE SYSTEM FOR LIQUID MONITORING IN THE SMART CHEMICAL INDUSTRY

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Abstract: The work presented in this paper is carried out as a part of the realization of a supervision system based on visual sensor network, in a chemical industry. Since the designed system is battery powered, our objective is to reach a compromise between the energy consumption and the quality related to the image capture Therefore, in this paper, we are interested to highlighting some important details of the image in the moment of capture, which is a topic not covered yet in previous research works. As light is absorbed by materials through which it is passing, good image quality can be reached when applying the adequate light color. This paper studies the color light effects on the captured images. For that, an embedded supervision system based on Raspberry Pi and visual sensor is realized to achieve experiments. A laboratory glass container including liquids is used and served us as a emulator of chemical substance container.

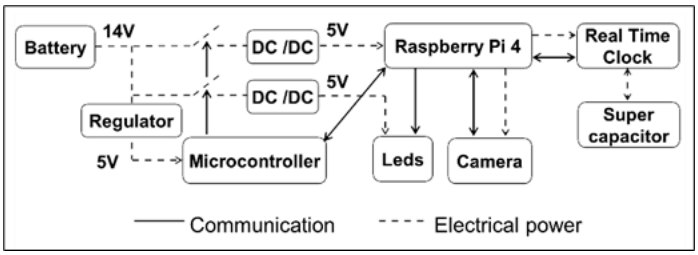

Fig. 1. Architecture of the supervision system

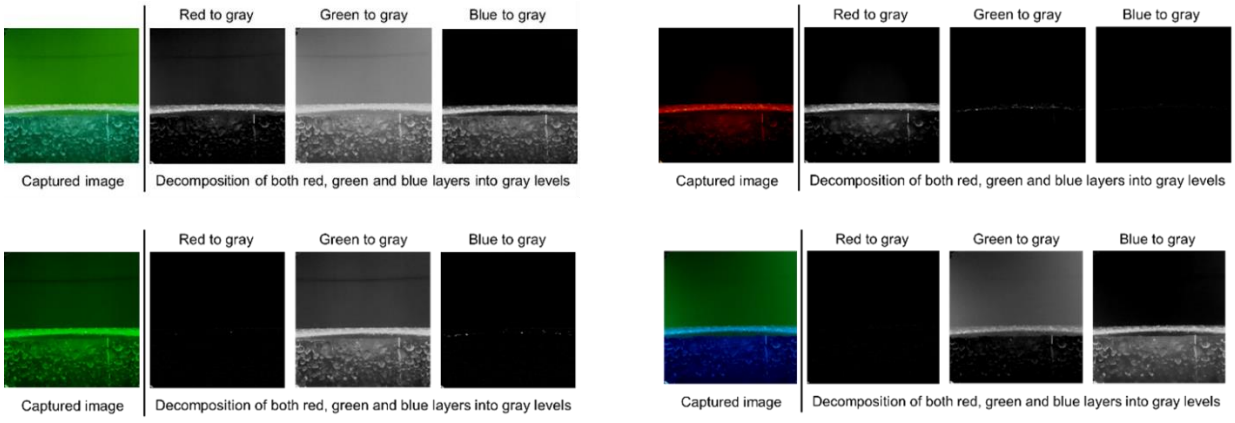

Fig. 2. Image capture appliying white – red – green - blue light