ID1414
Authentication of *Halal* Logo Through The Use of Smart Holographic Seal for *Halal* Products Packaging

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ABSTRACT

Halal means permissible, the life of Muslim revolves around the concept of Halal. It covers food as well as non-food category of products. Nowadays, Halal product has been recognized as a benchmark for safety and quality assurance. Products that are produced with halal certification are readily acceptable by Muslim consumers as well as consumers from other religions. Unfortunately, confusion and doubt about halal status of certain product among the consumers appeared due to the lack of important information on the product packaging. Barcode, QR Code, Radio Frequency Identification(RFID), product ingredients information are not adequate to authenticate the halal information claimed by manufacturer. A lot of works has been carried out to find the solution of this issue. By taking this issue, we have come out with the idea to study about the authentication of Halal logo through the use of smart holographic seal for halal product packaging. This study is aimed to study suitable smart authentic seal based on holographic structure for Halal products on their packaging as a means of identification. Holographic structure that is really suitable to be the authentic seal for halal products in the form of printed electronics technology is going to be studied. Equipment in term of high performance simulating platform and software are crucial to design and modeling of holographic structures as well as mobile application development base on image processing. A quantitative method will be carried out in order to earn perspective from the stakeholder who consists of consumers, industries and authority towards the proposed technology. We have high hope that this research will be the new finding for authentication of halal logo and brand protection.

Keywords –Authentication, *Halal* logo, Smart holographic seal