Document details

Back to results | 1 of 5 Next

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2018 2nd International Conference on Smart Sensors and Application, ICSSA 2018
14 November 2018, Article number 8535867, Pages 48-52
2nd International Conference on Smart Sensors and Application, ICSSA 2018; Hilton HotelKuching; Malaysia; 24 July 2018 through 26 July 2018; Category numberCFP18ZAW-ART; Code 142494

The Implementation of IoT Based Smart Refrigerator System (Conference Paper)

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Abstract

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Wasted food due to spoilage is a critical resource issue. Food waste or food loss is food that is discarded or lost uneaten. Currently, in the world, according to the Food and Agriculture Organization of the United Nations (FAO), consumers waste about 1.3 billion tons of food annually and consumers in rich countries waste about 222 million tons of food products Once food products are purchased and set aside in a refrigerator , the users do not alert about their food items' expiration date and/or freshness unless they individually examine and track them. Moreover, for food products which are not labeled with an explicit expiration date may lead to significant food spoilage and additional expenditure for the users. However, with the latest trend technology of the Internet of Things (IoT), this problem can be resolved. Combining the idea of Internet of Things and smart kitchen evolution, the smart refrigerator system is developed. The system consists of three main parts which are sensing module, control module and transmission module. Sensing module consists of load cell and odour sensor while control module consists of Arduino UNO and power supply unit and last but not least, the transmission module consists of LCD module and Wi-Fi module. These modules work together to determine contents status inside the refrigerator and notify the user about the condition and quantity of the food via an SMS or an email. © 2018 IEEE.

SciVal Topic Prominence

Topic: Students | Radio frequency identification (RFID) | student attendance

Prominence percentile: 80.773

Author keywords

Arduino | Home Automation System | Internet of Things (IoT) | Sensors | Smart Kitchen

Indexed keywords

Engineering controlled terms: Automation | Chemical contamination | Food microbiology | Internet of things | Light transmission | Refrigerators | Sensors | Smart sensors

Engineering uncontrolled terms: Arduino | Critical resources | Food and agriculture organizations | Home automation systems | Internet of thing (IOT) | Internet of Things (IOT) | Power supply unit | Transmission modules

Engineering main heading: Spoilage

ISBN: 978-153861281-1
Source Type: Conference Proceeding
Original language: English
DOI: 10.1109/ICSSA.2018.8535867
Document Type: Conference Paper
Sponsors: et al.,Fun Learning Paradise,Humanitarian Activities Committee,IEEE,Leader Cable Industry Berhad,Sarawak Convention Bureau
Publisher: Institute of Electrical and Electronics Engineers Inc.

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June