IoT-Based System for Maintaining Constant Taste of Ginger-Flavoured Alcohol: A Case of Eden Business Center, Rwanda

Speciose Ingabire, Godfrey Naman, Ramadhani Sinde & Judith Leo

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DOI: https://doi.org/10.1007/978-3-031-99219-3_9

Abstract

The beverage industry, particularly the flavoured alcohol sector, plays a role in the development of Rwanda since most of people consume ginger beer due to its lower cost, demand, spacy medicine, and small alcohol volume. Regardless the increase of several this approach proposes to address these challenges however; it does not fully solve the issue. In this paper, a smart IoT-based system monitoring proposes to address the flavour consistency issue faced by the beverage industries. The proposed solution aims to enhance the monitoring and controlling the production and fermentation process through real-time data collection and remote control capabilities. By leveraging IoT technologies, sensor networks, cloud computing, and mobile application were used. The proposed study enables efficient monitoring of key parameters such pH, temperature, alcohol and concentration. Moreover, it facilitates rapid control and timely interventions by altering the user about the active data on the ginger beer status. The experimental results prove that the system has great prospect and it is for beverage industries usage. The ginger industry is seeing improvements and evolution in today's technology. Ginger is an upright perennial plant that grows to a height of three feet and a width of 1.5–6 cm. It thrives in well-drained soil and in areas that receive some shade. Ginger may be cultivated in both irrigated and rain-fed environments.

Keywords

Taste consistency; Ginger-flavoured alcohol; GSM alerts