

Application of Fuzzy Reasoning on Developing an Warning System for Abnormal Situation of Cool Food Logistics

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ABSTRACT

This study designs an anomaly alarming information system for the quality management problems confronted in the food distribution process of cool food logistics. The system is based on Arduino and integrates with Bluetooth module, temperature-humidity sensor, Android handy devices, and other software and hardware. It transmits the environmental parameters inside the vehicle to the remote server via Internet. And then it estimates the environmental parameters inside the carriage by fuzzy reasoning to evaluate the freezing condition inside the vehicle, which could provide reference for the users to facilitate decision-making. In case any anomaly, it will notify the driver and management personnel immediately for remedial measure, so as to prevent the food damage during the transportation. The simulation experiment verifies the system could realize temperature and humidity monitoring, cargo temperature- humidity log, vehicle position tracking, anomaly pre-alarming and transparent transportation during the entire process.

Keywords : Fuzzy Reasoning、Cool Food Logistics、Temperature-Humidity Monitoring

Table of Contents

封面內頁 簽名頁 摘要 iii ABSTRACT iv 誌謝 v 目錄 vi 圖目錄 ix 表目錄 xi 第一章 緒論 1 1.1 研究背景與動機 1 1.2 研究目的 3 1.3 研究限制 3 1.4 研究流程 4 第二章 文獻探討 6 2.1 低溫物流 6 2.2 Arduino 8 2.2.1 Arduino特色 9 2.2.2 Arduino 軟體開發環境 9 2.3 Android 10 2.3.1 Android系統架構 12 2.4 模糊理論 13 2.4.1模糊集合(Fuzzy Set) 14 2.4.2模糊規則 17 2.4.3模糊系統 18 2.5 小結 20 第三章 研究方法 21 3.1 系統架構 21 3.2 硬體設備 22 3.2.1 Arduino 23 3.2.2溫溼度感測模組 25 3.2.3藍芽無線傳輸模組 30 3.2.4軟體功能製作 33 3.3 Android 34 3.4 核心推論架構 35 3.4.1設定輸入與輸出變數 36 3.4.2模糊化 36 3.4.3建構模糊規則庫 40 3.4.4模糊推論 42 3.4.5解模糊化 43 3.5 車輛監控平台 44 第四章 實例驗證 48 4.1 藍芽資料封包格式 48 4.2 模擬實驗 50 4.3 模擬結果分析 54 4.4 小結 56 第五章 結論與建議 57 5.1 結論 57 5.2 建議 57 參考文獻 59

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