

CLOTHES CLEANING SYSTEM BASED ON THE INTERNET OF THINGS WITH FUZZY LOGIC

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ABSTRACT

Doing laundry is a daily routine for society. However, clothes are often left hanging all day, requiring protection from rain. Therefore, a device that can automatically control the drying rack according to weather conditions is needed. The aim of this project is to create a prototype of a laundry conditioning and control system based on the Internet of Things (IoT). This system handles two conditions: the laundry rack is open when the open button on the smartphone is pressed or when the weather is sunny, and it is closed when the close button is pressed or when the weather is cloudy/rainy. The movement of the rack is controlled by a servo motor. Weather condition information is displayed on the smartphone in the form of three images: rain, cloudy, and sunny, based on sensor values read by ESP32 and sent to the Android application via Firebase. The output values of these images are derived from the calculation of input values from rain, temperature, humidity, and light intensity sensors using Fuzzy Look Up Table logic with 16 rules. The system is expected to automatically adjust the laundry rack based on surrounding weather conditions and can be controlled and monitored via smartphone.

Keywords: Internet of Things (IoT), Clothesline, Fuzzy Look Up Table.