DESIGN AND DEVELOPMENT OF AN IoT-BASED SHOE DRYING SYSTEM

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ABSTRACT

The development of internet of things (IoT) technology has significantly impacted various aspects of life, including shoe hygiene maintenance. This study aims to design and develop an IoT-based automatic shoe dryer system designed to optimize the shoe drying process efficiently and safely. The device consists of a drying box equipped with a DHT22 sensor to monitor temperature and humidity, an ultraviolet lamp, a heater as a heating element, and four DC fans for cooling. The device's operation is controlled via a NodeMCU ESP8266 microcontroller connected to the Blynk application, enabling real-time control and monitoring through the internet. The test results show that this device can dry sneakers within 2 hours with a power consumption of 0.380 kWh, incurring an electricity cost of IDR 513. This device not only accelerates the drying process but also preserves the quality of the shoes, making it suitable for use in unfavorable weather conditions such as rain or nighttime.

Keywords: Temperature, DHT22 sensor, Shoe dryer