ABSTRACT

DESIGN OF IOT BASED BODY TEMPERATURE PRESENCE AND DETECTION SYSTEMS

(Case Study: SD Negeri 02 Pedawang

Pekalongan Regency)

By

Muhammad Arif Nasrullah

19102126

Recording student attendance lists is one of the things that can increase the level of discipline of a student in learning. Time discipline may be for some small people but it has a very big influence, especially for students. In this study, a student presence system was designed using NodeMCU ESP32, Radio Frequency Identification (RFID) sensors and body temperature detection using the MLX90614 temperature sensor and ultrasonic sensor as a support in temperature checking work. With this attendance system, there will be no more human errors in the attendance process. The system that is integrated with the database allows data to be automatically saved directly into the database making it easier for admins to monitor student attendance. In this study, testing was carried out 30 times for calibration of temperature sensors and ultrasonic sensors. The calibration results obtained an accuracy of 98.7% for the MLX90614 temperature sensor and 97.8% for the ultrasonic sensor. Then for testing the durability of the tool, testing was carried out 30 times to get a success result of 96.7%. Website testing was also carried out using the black box method and the results obtained that the website was running well according to the researchers' expectations.

Keywords: RFID, Ultrasoik, Temperature sensor, NodeMCU ESP32, Website