

ABSTRACT

The room is currently a place that is very often used by humans for their daily activities, a lot of time is spent indoors, sometimes someone is in a hurry, they forget whether they are ready to open the door, or forget to turn off electronic devices such as fans or lights on in the room, requiring them to re-check the room this results in less efficient human energy and time for activities. Based on these problems, a design in the form of a device to control electronic devices in the room based on the Internet of Things was developed. This device uses an ESP32 microcontroller that already has wifi so that it can be connected to a smartphone using an internet connection, then equipped with a DHT22 sensor to display room temperature information on the smartphone, all of which is connected to the Firebase Realtime Database as temporary storage of commands. From the delay on and off test, an example of the response of the light switch from the database to the SIRUP device 17.63 seconds was taken, not as fast as from the application to the database which was only 00.88 seconds, this was because the device reads commands that run sequentially and keep repeating so when there is an order intended for relay 2 and the device is still processing relay 1 then the command relay 2 is done after relay 1 is complete, and so on, and from the results of device testing that was carried out 7 times, 7 times were declared Successful and 0 times showed Failure, the conclusion was obtained, which means that the application and the device are running well and 100% normal work. The device can run by receiving commands sent from the application on the smartphone, besides that room temperature data can appear in the application that has been made by the author.

Keywords : Room, Internet of Things, ESP32, Firebase Realtime Database, Smartphone