

DESIGN OF ELECTRONIC ROOM CONTROL SYSTEM USING RFID SENSORS AND VOICE COMMAND RECOGNITION CAPABILITIES

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ABSTRACT

A room is a closed place inside a building or house. A good room must have comfort and security in order to increase productivity. Security and comfort can be supported by creating a system with the help of a microcontroller as the brain that processes sensors and actuators to monitor and control room conditions. There is RFID (Radio Frequency Identification) which is used for access in and out of the room. This system uses IoT (Internet of Things) to control and monitor devices with Blynk and Sinric Pro software. In addition, there is a voice command feature from Google Assistant to control devices on Google Home. The results of this study can allow and deny access from RFID id and can monitor and control devices via IoT and voice commands. The success rate in testing sensors, IoT controls, and voice commands is 100%. The delay produced by IoT control is an average of 0.95 seconds and the average voice command delay is 1.72 seconds so it can be concluded that the delay is influenced by the number of processes and the speed of the internet connection. This research can function and can be applied to rooms in the real world.

Keywords: *Arduino, ESP8266, RFID, Smart Room, Sinric Pro*