

ABSTRACT

The development of information technology nowadays provides various facilities to support human activities. One of the technologies that facilitate humans is the use of automatic systems, the application of a smart home system makes it easier for users to control household electronic devices. This study discusses one of the smart home solutions with an automation system. By using NodeMCU ESP8266 as a microcontroller for the Smart Home system with the IoT concept. This system is designed using Telegram Messenger as an input or notification media for the system. When input chatting, the chat input data reads by the program to be verified. If the verification is not successful, the system does not respond, followed by reprogramming the chat input, if the verification is successful, the BOT will respond and then send an input signal to the microcontroller for processing, after processing the microcontroller will send an output signal (On / Off) to be sent to the relay which will be passed to the output components (Solenoid Doorlock, gas leak, LCD, and LED lights). By applying the Smart Home system with the IoT concept, we can take advantage of existing technology. The Smart Home system with the IOT concept is also safe because only people who have certain access can control the house, such as unlocking doors and turning on lights remotely. With the creation of the Smart Home system with the IoT concept, it is expected to have an efficiency value and a security value in the customer's home. In this study, NodeMCU ESP8266 was implemented as a microcontroller on the Smart Home system with the IoT (Internet of Things) concept.

Keywords: *Smart Home, NodeMCU ESP8266, Microcontroller, Remote Control, Telegram*