ABSTRACT

Along with the rapid development of technology, it is expected to be utilized for the development of security systems in several fields and aspects of Indonesian people's lives. In this Final Task one of the technological systems used is internet of things technology. When there is a fire will appear a notification sent via SMS which is divided into 2 SMS messages and on each floor is given a buzzer that sounds when there is a fire. The purpose of the notification is to prevent the panic of residents in the apartment and is expected to reduce the number of fatalities.

In this final task will be designed using 2 sensors, namely the DS18B20 temperature sensor and the MQ-2 smoke sensor. The microcontroller used in this Final Task is the Arduino Uno and an additional wifi module, ESP8266, and uses the Buzzer as an alarm. The database used in this Final Task work is ThingSpeak which serves to display sensor values in real time and becomes a bridge to automatically send SMS to the residents of apartments through Twilio.

The tests done on this Final Task went well. All sensors used in this Final Task can function according to their respective uses, namely for the MQ-2 sensor can detect combustible gas in apartment rooms and DS18B20 sensors can detect the temperature in the apartment hallway. The accuracy value obtained for SMS delivery is 100%. Delay calculation tests are conducted in the morning, afternoon, afternoon, and evening with preferred category delay value which is a category of ITU-T G.1010 as a reference for the delay category.

Keywords: Sensor, Arduino Uno, Buzzer, Twilio, Internet Of Things, ThingSpeak.