ABSTRACT

Early detection of fires that can make quick action and decisions is essential in a fire fighting system. However, in reality the detection system that is commonly used by the community is still limited to an alarm that can only be heard when the owner of the house is present. Therefore, the Internet of Things is an alternative that is able to provide smart systems for these needs.

The system created in this study aims to prevent or minimize losses from fires so that they can be detected and addressed early. Thus system consists of two sub-parts, such as tool and mobile applications which are integrated with each other. In this study only focused on designing an Android mobile application. A building will be remotely monitored via the Android application by the user or building owner connected through the internet from the device. The ThingSpeak platform is used as a database to store and send sensor data from the device to the Android application which then sends a notification to the user or building owner.

From the results of system testing, it is known that the mobile application can connect with the ThingSpeak database and the reading of the database data runs well. Obtained the average value of end to end database delay to the mobile application is 7,7s. In accordance with the ITU-T G.1010 standard for delay (delay end to end <10 s) the value is categorized as good. In application testing, it is also known when the condition is alert, it will send a notification to the user or building owner in the form of an early warning, and when the condition is in danger, it will also send a notification to the user or building owner in the form of an early warning and automatically make a call to the fire fighter.

Keywords: *IoT, Mobile Android, ThingSpeak, Delay.*