

ABSTRACT

In Indonesia, hydroponics is widely used to maximize and at the same time streamline crop yields. However, due to rapid technological developments, hydroponics is now widely integrated with the Internet of Things (IoT) to further maximize and streamline crop yields. However, integrity with IoT only automates some parts that are still done manually. Monitoring and controlling several tools must still be done by coming and monitoring the hydroponics directly. Such systems have few advantages over traditional hydroponics. For this reason, cutting-edge software with high mobility is needed to perfecting a hydroponic system integrated with IoT to do many things apart from automation.

Users can use application to process smart hydroponic systems to operate and monitor data from smart hydroponic systems. This application is designed with an Android base to support the mobility of the user. This application can also display events that occur in plants grown in a smart hydroponic system in real-time, thanks to the support of the Firebase API.

The test results show that the application (under the conditions and scenarios that have been designed) can run well. Apps can read and display data from Firebase. The survey results also found that 95% of respondents agreed that applications with monitoring features were needed.

Keywords: *Android, Firebase, Hydroponic, IoT*