

ABSTRACT

The existence of traditional farming systems in Indonesia makes it difficult for farmers to monitor and determine the needs of plants found on agricultural land so that they have the potential for failed agricultural products. Sensors installed on the Internet Of Things system can help farmers in Indonesia get real-time information such as soil moisture, temperature, humidity and light intensity.

The smart farming system created is a mobile application that is connected to sensors such as soil moisture, air temperature, air humidity and light intensity. The sensors are connected directly to the NodeMCU ESP32 microprocessor. The mobile application is made using the javascript programming language which is supported by the React Native framework for the front-end and for the back-end using Google Firebase as database storage. This application will display sensor data stored in the database as a reference for farmers in monitoring crop needs on agricultural land. This application is equipped with a authentication system via user email, in order to increase the application security system.

In this study, the results of functionality testing, the features contained in the mobile-based monitoring application can be accessed by the user. The QoS test results using the delay parameter with an average of 135ms and the throughput test results with an average of 1,080mbps.

Kata Kunci: *Internet Of Things, Google Firebase, React Native, NodeMCUESP32, Javascript.*