

ABSTRACT

Zero Hunger is one of the main goals of the SDGs that aims to end hunger and improve food security. Indonesia, as an agricultural country, has a strong commitment to achieving this goal. However, the lack of precision in crop nutrition is one of the obstacles in increasing agricultural productivity in Indonesia. One of the largest agricultural products in Indonesia is large chili, with a total of 1.554.498 tons of large chili in 2023. Precision agriculture provides guidance to treat crops efficiently so as to optimize resources. To realize precision agriculture, it is necessary to use the right technology with the Agriculture 4.0 strategy. The developed monitoring dashboard aims to provide information about soil conditions, so that nutrients can be given precisely and optimally. The method used in the development of the chili crop health monitoring dashboard is iterative incremental. The stages in this method consist of analysis, design, implementation, and testing which are carried out every iteration. This method allows flexibility in development and adaptation to changing user needs. The resulting monitoring dashboard is able to present effective visual monitoring data, such as historical graphs and gauge charts, and provides image upload features for disease classification and vegetation index. Communication of the IoT system with the monitoring dashboard is bridged by ThingSpeak as a channel that stores monitoring data from sensors. The test results in the last iteration showed that the monitoring dashboard was accepted by users. MAUS reached a medium level with a score of 78, SUS score shows grade C with acceptability range “Acceptable” and adjective rating “Excellent”. The UAT results also showed 89,1% which means it is highly accepted by users.

Keywords – Crop Health, Iterative Incremental, Monitoring Dashboard, Precision Agriculture