

Eye-tank: monitoring and predicting water and ph level in smart farming

ABSTRACT

Water is the most critical resource in agriculture. However, concerns are raised about low-purity water, which contributes adverse effects to the soil and plant. It causes significant losses to farmers. Hence, this study proposed a project using sensors to identify and predict water and pH levels. Once triggered (water or pH level exceeds or dropped below standard requirement), the sensor can activate the alarm system and notify the target user via email and SMS. In addition, this project includes predicting pH levels by using the data collected from the pH sensor. Raspberry Pi 3 serves as the central processing unit – implementing and powers up the system and enabling sensors to read and display data. This project utilized rapid prototyping, which comprised several phases, which consist of building, testing, and revising until an acceptable prototype is created. Besides, the system is accessed via remot3.it platform, which connects the device to the system. The system interface is displayed through Virtual Network Computing (VNC) viewer. Overall, this study presents the details in developing a gadget capable of displaying water readings and communicating with the target user. Also, the monthly report will be generated and notify the user via email and SMS.