

Smart Agriculture Monitoring System for Harumanis Using Lora Technology in UiTM Perlis

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ABSTRACT

Smart farming based on IoT technology assists farmers in reducing waste and increasing output in areas such as the quantity of fertiliser used, and the number of farm vehicle trips made. Farmers at UiTM Perlis must walk to the planting field every day to monitor the soil condition. The previous researcher created and examined a soil moisture monitor that used the Zigbee network to monitor soil moisture by determining the pH of the soil, however Zigbee only covers a narrow coverage area. This research was implemented to build a prototype to capture the pH value and soil moisture needed by Harumanis mango using LoRa technology and to execute functionality, usability, and network test. This project used two LoRa shields that act as client and server and the data will store locally in Microsoft Excel via Data Streamer. The results for this project are soil moisture value, RSSI, humidity, and temperature. UiTM Arau can consider providing a gateway for use of future researchers without having to depend on a public gateway as there are few concerns while performing this project.

Keywords: IoT, Zigbee, Data streamer, RSSI