

ABSTRACT

The Green Mustard is a type of vegetables that is widely cultivated by the community. The main constraints in the field of agriculture is the lack of monitoring of the growth of plants like the occurrence of uneven growth between one plant with other plant. It can affect the quality of the green mustard plants and farmers can do harm because they have to pay more for the maintenance. The integration of information systems and agricultural systems is intended to help conducting a monitoring of the plant during the growth.

This Final Project created a system which integrates with Raspberry Pi, that utilized computer vision with the methods of edge detection and microcontroller devices. The library and device were used to obtain the results of plant height calculation, detection of leaf numbers, and plant area calculations which is a parameter of the growth of the green mustards. The data processing results were then submitted to the website using web server as a media for sending and receiving data. The data was displayed in the form of a graphs and a table of observations on plant growth as an information website. In addition, this monitoring system was equipped with live streaming.

From the test results that had been done, system testing showed that the system is 100% successful provides the information of the growth of green mustard for users as expected. In addition, the accuracy systems in measuring for the growth of plant got the percentage accuracy 96% in measuring the height of plants, 85.2% in measuring the amount of leaves and 97.3% in broad measure of plants.

Keywords : Computer Vision, Raspberry Pi, Microcontroller, Website.