

ABSTRACT

Plants and fruit crops are what many people are looking for, including to cover the body's needs as a source of vitamins and minerals. Yields from agriculture have also become the largest export material for Indonesia, cultivators can earn income in cultivating plants and fruits. The tomato yields that have been obtained require attention in the storage period, because the maturity of each tomato crop has various maturity. The quality of the color that is owned will also affect the level of maturity.

It is very necessary to monitor the quality and quantity of harvest maturity during the storage period, usually cultivators monitor it manually, with the uncertainty of the results obtained. As a way for cultivators to easily monitor the quality and quantity of crops based on maturity level, it is necessary to make a tool to classify it automatically which can know with certainty data from the amount of harvests, as well as a tool that can monitor it in real time. Therefore, in this final project a tool is designed that can read the quality of crop yields in real time through Internet of Things technology.

After the system design is complete, tool testing is carried out to determine the success of the tool that has been made. The results obtained from testing the tool can be seen through the user's application regarding the quantity of fruit and the level of maturity based on the color of the tomato yield. Tests from this study also got a good accuracy value of 98%. The design of the tool is somewhat more flexible with the size of the tool not being too large, which has a length of 95cm, width 17cm and height 20cm.

Keyword: *Tomatoes, classification, maturity, Internet of Things, application*