

ABSTRACT

Developments and technological advances, especially in the field of IoT (Internet of Things) has been widely used in various fields. Taking advantage of current IoT technology advances is very helpful in completing various human jobs. One example is the utilization of IoT technology in agriculture. Currently green house has been widely applied in the process of control of the plant so that conditions can be maintained. However, with IoT technology, plant control work in greenhouses can be made automated and controlled remotely.

Green House serves to protect plants from excessive heat and cold, protecting from dust and helping to help crops from pests. Green house is made as monitoring automatically by using microcontroller as the center of controlling the sensors used. Sensors that get values of humidity, temperature and soil moisture parameters will be processed automatically for fan, heater, and sprayer controls. Making this green house will be made to resemble the original with in the form of prototype that use material from acrylic.

In the test of green house based microcontroller and firebase can be applied well using nodeMCU microcontroller and real-time database. The device can monitor real-time moisture, temperature, and soil moisture conditions in a green house with accurate data accuracy to help accessible monitoring anywhere. The adoption of a Firebase-based green house device is proven to monitor and control existing crops by using temperature and humidity sensors that have an average difference of 0.3 ° C for temperature and 1% for air humidity.

Keywords: Green House, IoT, NodeMCU, Firebase

