

# ***DESIGN OF IOT AND SOIL MOISTURE BASED PLANTING DEVICE***

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## ***ABSTRACT***

*Agriculture in Indonesia, especially in Bengkalis Regency, is the main source of meeting food needs. Water irrigation is very important so that the plants thrive. Water irrigation by farmers is still done manually, where to water the plants one by one and then have to wait until all the plants are wet or by carrying a container and watering manually with human power. Then the tool that will be made with remote control system technology is by using IoT (Internet of Thing). This tool works to detect the level of moisture in the soil that can be seen through a smartphone so that it can keep the soil condition moist. Besides being able to be monitored via a smartphone, this tool can also monitor soil moisture through the LCD. For watering, it is controlled automatically through NodeMCU ESP8266 according to the soil moisture that has been set with the soil moisture standard for fertile body plants. While watering can be controlled remotely using the telegram application. The results of the tool test show that the humidity sensor has an input voltage between 3.14 to 3.27 Volt DC but the output voltage reaches 1.08 to 3.12 Volt. The accuracy of the humidity sensor is almost close to the actual measuring instrument with the largest error value is 0.13% and the smallest is 0%.*

***Keywords:*** *IoT, Smartphone, LCD, NodeMCU ESP8266, telegram.*