

ABSTRACT

Manual watering of plants must always be done all the time, which is time-consuming for people who grow plants. Greenhouse with modern technology creates controls automatically like a sprinkler. Thus, the time spent on watering the plants is less than the manual system. In addition, users can save water which has been wasted because they do not know the condition of the water needs of plants. An automatic plant watering system with soil moisture, air humidity and temperature sensors is used to control the plant environment. With the development of the internet almost all over the world, it has changed the daily human activities. Internet Of Things (IOT) technology allows objects to be connected and communicate with each other. In automatic plant watering devices, IOT connects sensor devices and water pumps to be monitored via the internet network. IOT is built with NodeMCU ESP8266 which allows access via the internet. The hardware design uses the NodeMCU ESP8266 microcontroller as the control method. The data is then sent online to Whatsapp which functions as a notification for the user. The system also implements a power switching system to turn on NodeMCU. The power used is in the form of electricity from PLN using a 12 V DC adapter and 18650 battery which if the PLN electricity is constrained or is off it will immediately switch power to 2 batteries arranged in series.

Keywords: NodeMCU ESP8266, Plant, Power Switching, Mikrocontroller