

# **SISTEM PENYIRAMAN TANAMAN OTOMATIS BERBASIS ARDUINO UNO**

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## ***ABSTRACT***

*Water availability in plant cultivation systems is essential. Plants cannot live and develop appropriately if the water in the soil is not as needed. For this reason, it is necessary to water the plants regularly and scheduled. The availability of water in plants must be considered. If there is less water, the plants will dry out and eventually die. Conversely, if there is excess water, the plants will rot. By always supplying water regularly, the plants can grow, bear fruit and reproduce well. In this study, an automatic plant sprinkler will be designed using an Arduino Uno microcontroller, RTC, soil moisture sensor, relay and water pump, and the container as a prototype planting medium. Based on the results of the design and testing of an Arduino-based automatic watering system. After testing, this tool can water plants automatically at 07:01 and 16:01 every day for 20 seconds of watering time. Soil moisture sensors can work optimally in detecting soil moisture levels in the planting medium. It can be an indicator and a solution when the weather is very hot or rainy. When the weather is hot, and the soil conditions in the soil moisture sensor reading are above the predetermined standard values, the sensor will automatically send input to Arduino which will then be forwarded to the water pump to be able to do the watering automatically.*

**Keywords:** *Automatic Plant Sprinklers, Arduino UNO, RTC, Soil Moisture Sensor.*