RANCANG BANGUN SISTEM OTOMATIS PADA TANAMAN KOPI DAN CABE BERBASIS MONITORING APLIKASI BLYNK

Barep Dian Pramana

Program Studi Teknik Komputer,Fakultas Sains dan Teknologi
Universitas Teknologi Yogykarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail: rafflyes88@gmail.com

ABSTRACT

Plants play a vital role in human life, serving as a food source, providing greenery, and providing aesthetic beauty. Plants require proper care to grow optimally and provide maximum benefits. Furthermore, plants play a role in maintaining ecosystem balance, absorbing carbon dioxide and producing oxygen. However, plant care is often challenging, especially for urban communities with limited time and space. One of the primary needs of plants is water. Proper watering is crucial for maintaining soil moisture and supporting photosynthesis. However, inconsistent watering patterns, whether too frequent or too infrequent, can stunt plant growth and even lead to plant death. Unpredictable weather conditions, such as dry seasons or excessive rainfall, also influence plant watering needs. Therefore, watering needs to be done efficiently, taking into account the specific needs of plants. Watering automation is an innovative solution to address these challenges. This system allows for regular watering according to plant needs, without the need for direct human intervention. Technologies such as soil moisture sensors, timers, and sensor-based automation systems can help regulate the amount and timing of watering automatically. With automation, plant owners can ensure plant health while saving time and water. Based on this issue, the idea emerged to design and build a nodeMCU-based automatic plant watering system. This eliminates manual plant watering; everything is automated using a humidity sensor. The success rate for all system functions, including automatic pump control based on soil moisture sensor readings, manual pump control, and soil moisture and water level monitoring indicators, reached 100%.

Keywords*: Blynk, soil moisture, NodeMCU, chili plants, coffee plants.*