IoT based Autonomous Percipient Irrigation System Using Raspberry Pi

Abstract:

This paper propounds a design for automatic water supplying system in farmland using raspberry pi 3, Arduino microcontrollers, WiFi module, GSM shield, relay boards and couple of sensors. The components we used in our system ensures overall fecund, scalable and spirited implementation. Depending upon the moisture level of farmland and daylight intensity, the system can detect the appropriate time of water supply in the trees and can also keep track of the water level to prevent water from being accumulated around the roots of the saplings. The analog data received from the sensors are transmitted by Arduino as digital signal via Wifi Module to the Raspberry Pi 3. The system is able to notify the administrator if water shortage arises in the main water supply and an administrator can also communicate with the system by sending SMS (Short message service) of a particular keyword. This system can be applied in Farm land as well as small pot plants. Using this system, a very promising outcome is found in sustaining and cherishing the plants in a more scientific way.