Alternatives and Analysis

We identified several different alternative smart plant monitoring systems, we chose 3 solutions with 2 being D.I.Y projects and the other a Kickstarter project that you can buy the full kit.

Option 1: Plant Monitoring System (Created by Ryan Gill, Hackster.io)

This system uses an Arduino MKR1000, temperature sensor, photo resistor and moisture sensor connected to a breadboard with a battery bank to power the device. The system uses the free open-source software Johnny-Five to control the sensors and send the data to the RethinkDB database.

Although this system is cheap, it does need a good understanding of how it works and how to set it up.

Option 2: Arduino Smart Plant Watering (Created by Elecrow, instructables.com)

The watering system created by Elecrow uses more or less the same components as option 1 but on a larger scale. This system has a 4 channel water valve for watering up to 4 plants at a time and doesn’t use a breadboard or jumpers. This system looks cleaner than the first option but it is more expensive, does not connect to a database to collect data and only has moisture sensors.

Option 3: SmartPlantPi (Created by SwitchDoc Labs)

The SmartPlantPi is a Kickstarter project is a watering system that uses a Raspberry Pi which uses the sensors to monitor the sunlight, air quality, temperature and humidity. Like the D.I.Y project by Ryan Gill, it has software to monitor everything, Amazon Alexa/Echo Dot compatibility and it is open source. This system looks easy to use for consumers but it is the most expensive out of the 3 and is no longer available.