

Water my plants so I don't have to

Objective

Water the plant(s) in my room exactly when needed. Add water to the soil according to the measured humidity of the soil and data on recommended soil moisture for the plant.

Method

Using an [arduino and a soil moisture sensor](#) the soil humidity is measured and fed to a script running on a raspberry pi(?). From there, 2 methods of watering are available:

1. Connect an LED to the raspberry pi that lights up when the plant needs watering. The plant is then watered manually
2. Connect a motor to the arduino that releases an amount of water into the soil automatically

Features

- Humidity levels visualized graphically via a React app.
- Annotations on graph points describing events like “forgot to water” or “went on vacation” (?)
- Humidity baseline shown on the graph describing where the humidity level should be
- Email contact for website viewers to let me know my plant needs to be watered in case i miss it

Possible Issues

- Sensor oxidizes and becomes less accurate over time
 - Using a [capacitive soil moisture sensor](#) instead of the sensor used in the link above can solve this issue. It is made of non-corrosive metal, reducing the chances it will rust and lose accuracy
- Copper in sensors can kill plants
 - More research is needed but the capacitive moisture sensor looks like it doesn't contain copper
- Lack of data on soil moisture for plants
 - More research needs to be done

Materials

- Arduino
- Moisture Sensor
- Raspberry pi
- LED
- Wires
- Motor (?)

APIs + Libraries

- React
- [Chart.js](#)
- Any arduino library required for the sensor