

Project Overview: Social Media as monitor for weather data and plant growth - a web-based API usage (Python, MySQL, PHP)

Introduction

The second project will show you my passion in the field of technology and innovation, here I developed a user requested tool (weather station & plant growth monitor) and integrated in daily life (social media) with innovative technology (Raspberry Pi).

Setting/Intention:

- Remote garden (without Wi-Fi) needed plant growth monitor
- Plant growth should be monitored in relation to weather and ground moisture, this data will be posted on twitter

Hardware Solution:

- Raspberry Pi (advantage: Python, simple electrical engineering and low costs)
- Weather station will be built with DHT22 Sensor to measure temperature and humidity, BMP085 barometric sensor, light resistor and self-build moisture sensors (iron nails)
- Cellular 3g Dongle and low cost Web-Cam

Software Solution:

- Weather data will be collected from DIY weather station and transferred to a web-based weather station service (wunderground.com)
- Weather data will be posted on twitter
- Webcam regularly captures pictures from the plants and sends them to twitter/Flickr
- All data will be captured in a MySQL database to plot a graph (PHP-script)
- Graph will be uploaded to Flickr and imported to twitter

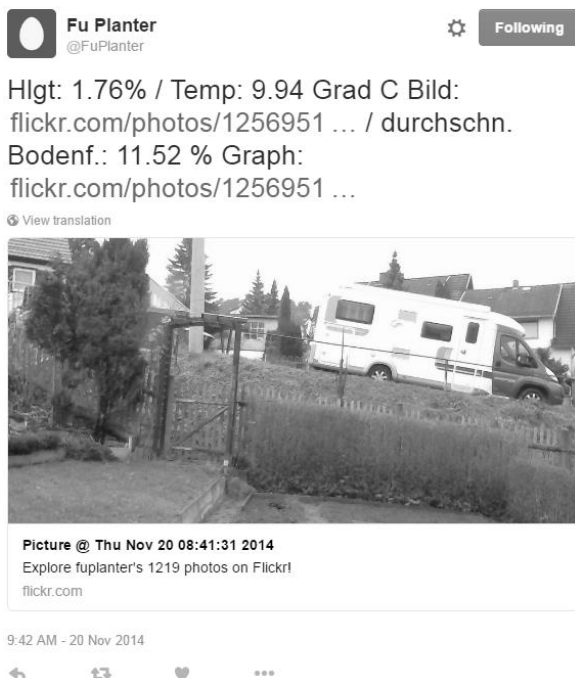


Figure 1 Example Tweet with picture of plants, Brightness, Temperature, Moisture Information plus links of pictures

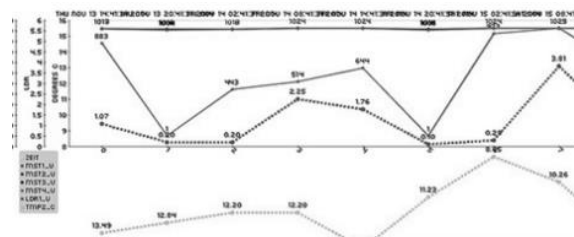


Figure 2 Example Graph for 7 days (php-Script)

Links

Source Code and Pictures (GitHub): <https://github.com/gstephan30/FuPlanter>