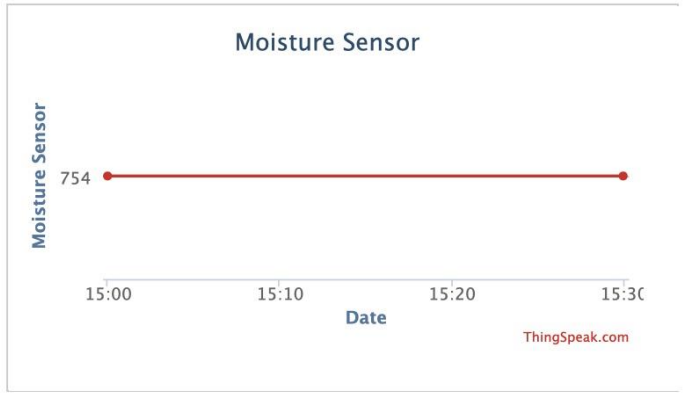
connected-plants-web

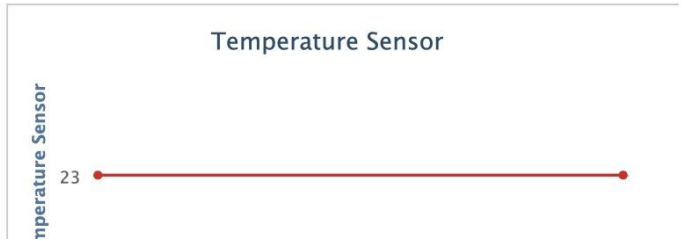
Welcome to connected-plants-web!

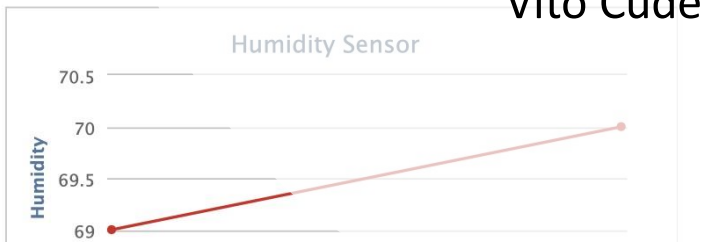
Current Threshold: 200

Set New Threshold 200

SAVE





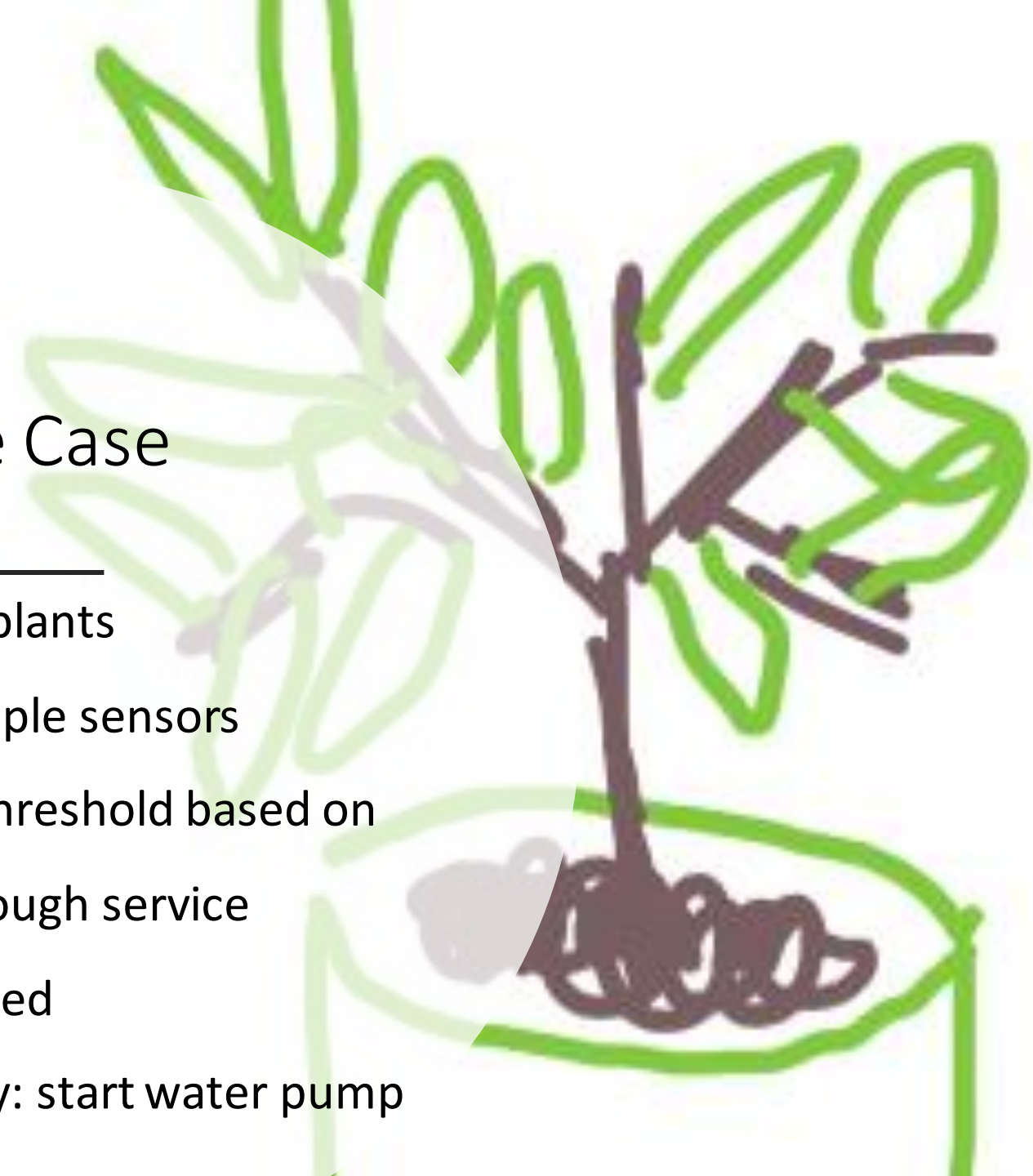


IOT Plants

Mischa Imbiscuso

Vito Cudemo

Use Case



- Monitor plants
- Use multiple sensors
- Change threshold based on plant through service
- Get notified
- Possibility: start water pump

Technologies und Services

mosquitto

ThingSpeak

ARDUINO

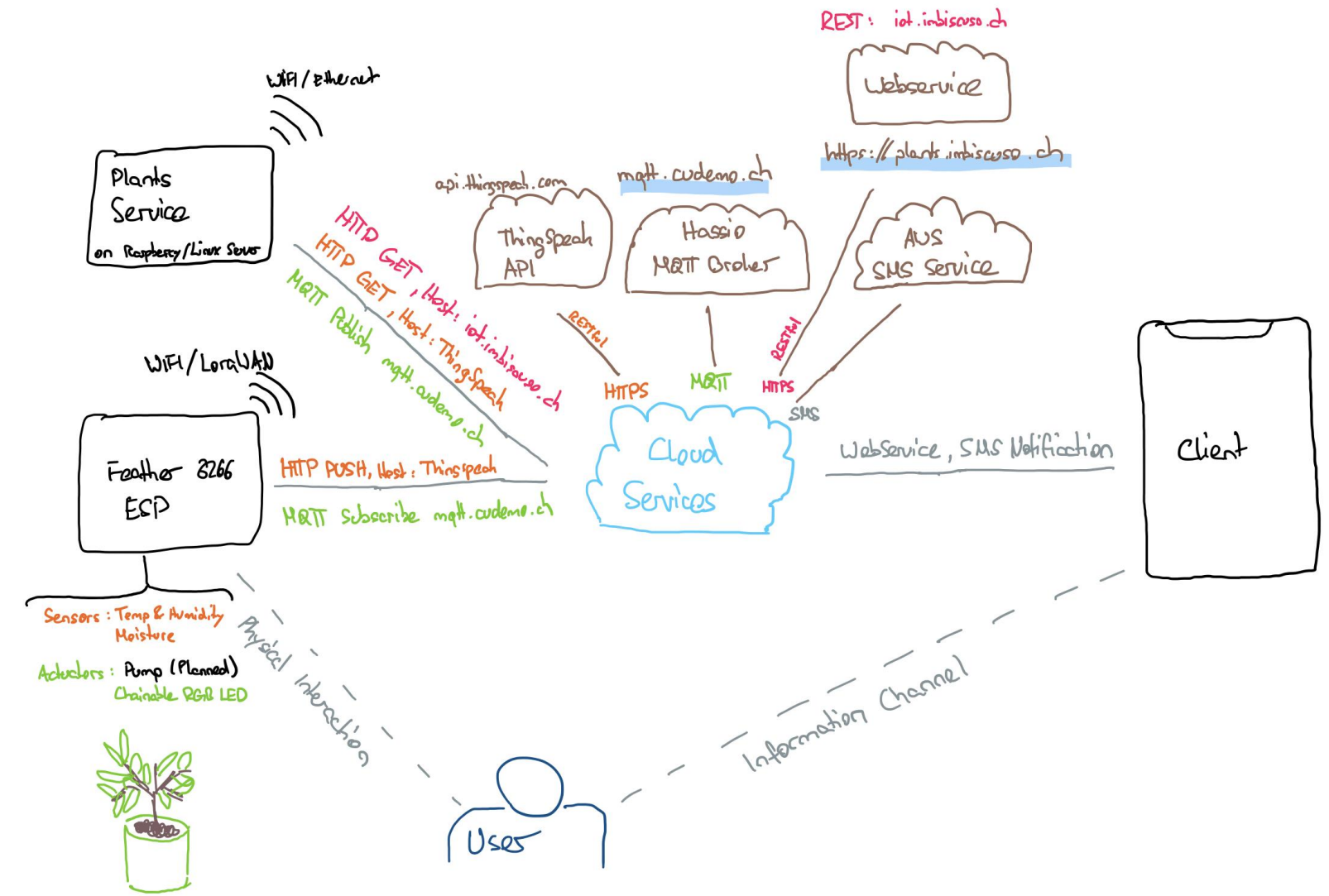
mongoDB.

aws

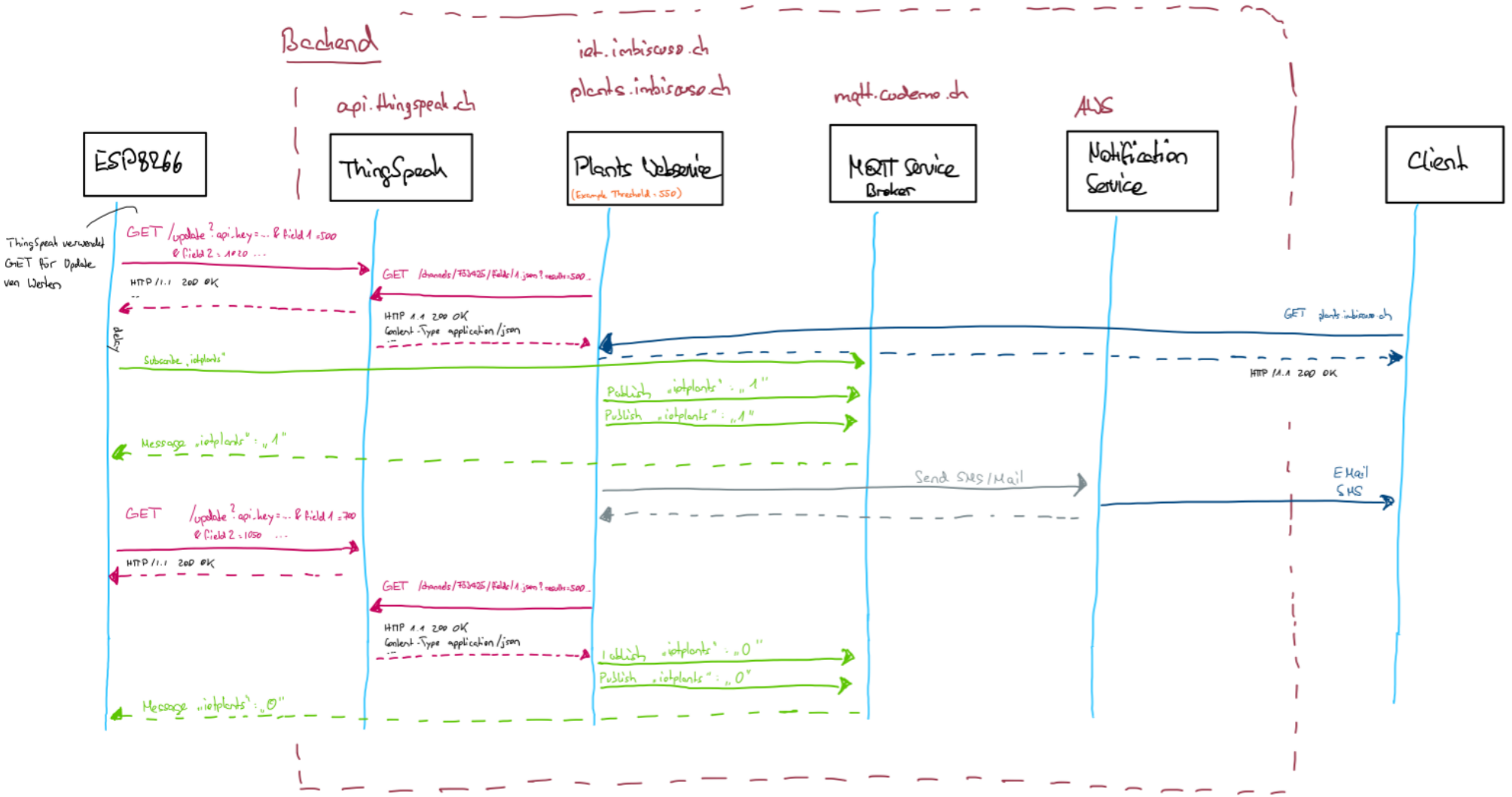
spring boot

IONIC

Reference Model



Sequence Diagram



Issues

- Particle Shield – bend the CHPD pin
- Parse ThingSpeak fields in service

Demo

1. ESP8266 is used in field to monitor plants.
2. Every x minutes, the ESP sends the sensor data to ThingSpeak API.
3. The Webservice (written in Angular) displays all relevant information to the user and gives the possibility to set the threshold for moisture-sensor based on plant.
4. The Plants Service monitors the threshold as well as the sensor information from ThingSpeak API.
5. If the threshold is reached, the Service sents the "1" signal to the ESP using MQTT service, which was set up on a Raspberry Pi 3+ running hassio home assistant: mqtt.cudemo.ch. This signal is being repeated until the threshold is back to normal.
6. Furthermore, the service sents an SMS and/or e-mail notification to the users.
7. The ESP then reacts to the event.
8. If the sensor information is higher than the threshold defined via webservice, the Plants service reacts to it by sending the "0" signal to the ESP using MQTT.