

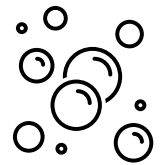
Progetto IoT

Dispositivo Irrigazione Automatica

Smart Agriculture

Francesco Baboni 128860

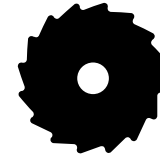
Design Progettuale



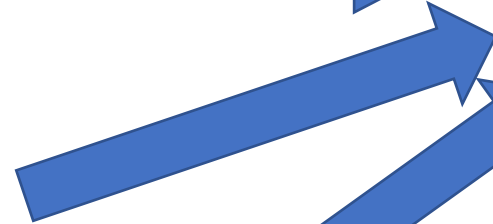
Sensore Umidità
Umidità (%)



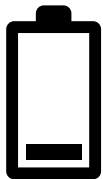
Data Manager



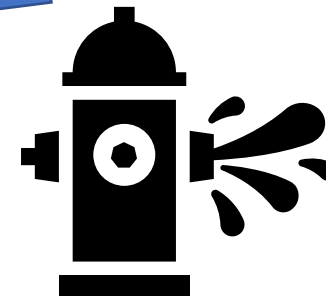
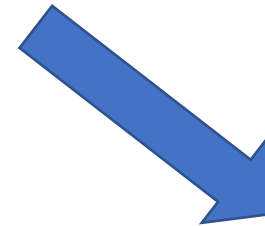
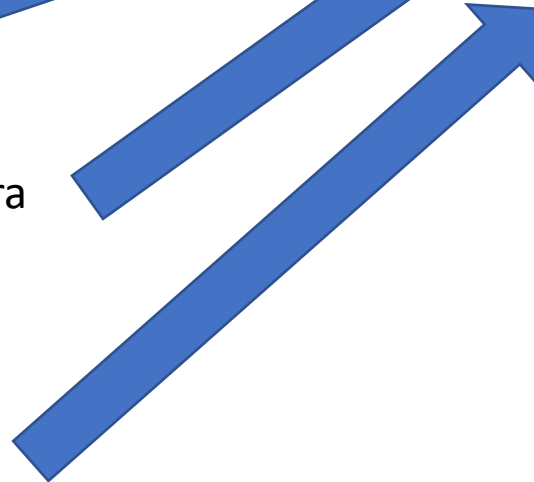
Sensore Pioggia
Pioggia (mm)



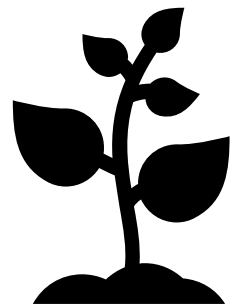
Sensore Temperatura
Temperatura (°C)



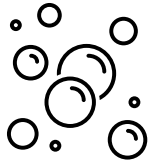
Sensore Batteria (%)



Irrigatore
(ON/OFF)
(Low, Medium, High)



Design Risorse



Sensore Umidità
Umidità (%)



```
rt = it.unimore.device.sensor.humidity  
if = core.s  
ct = text/plain & senml+json
```

```
rt = it.unimore.device.actuator.irrigation  
if = core.a  
ct = text/plain & senml+json
```



Sensore Pioggia
Pioggia (mm)



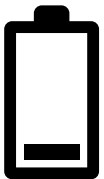
```
rt = it.unimore.device.sensor.rain  
if = core.s  
ct = text/plain & senml+json
```



Sensore Temperatura
Temperatura (°C)



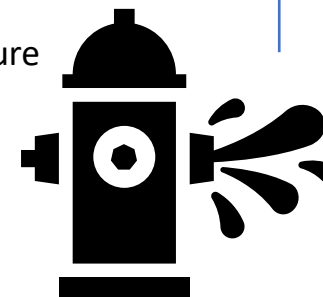
```
rt = it.unimore.device.sensor.temperature  
if = core.s  
ct = text/plain & senml+json
```



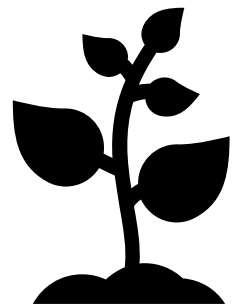
Sensore Batteria(%)



```
rt = it.unimore.device.sensor.battery  
if = core.s  
ct = text/plain & senml+json
```



Irrigatore
(ON/OFF)
(Low, Medium, High)



Logica Data Manager

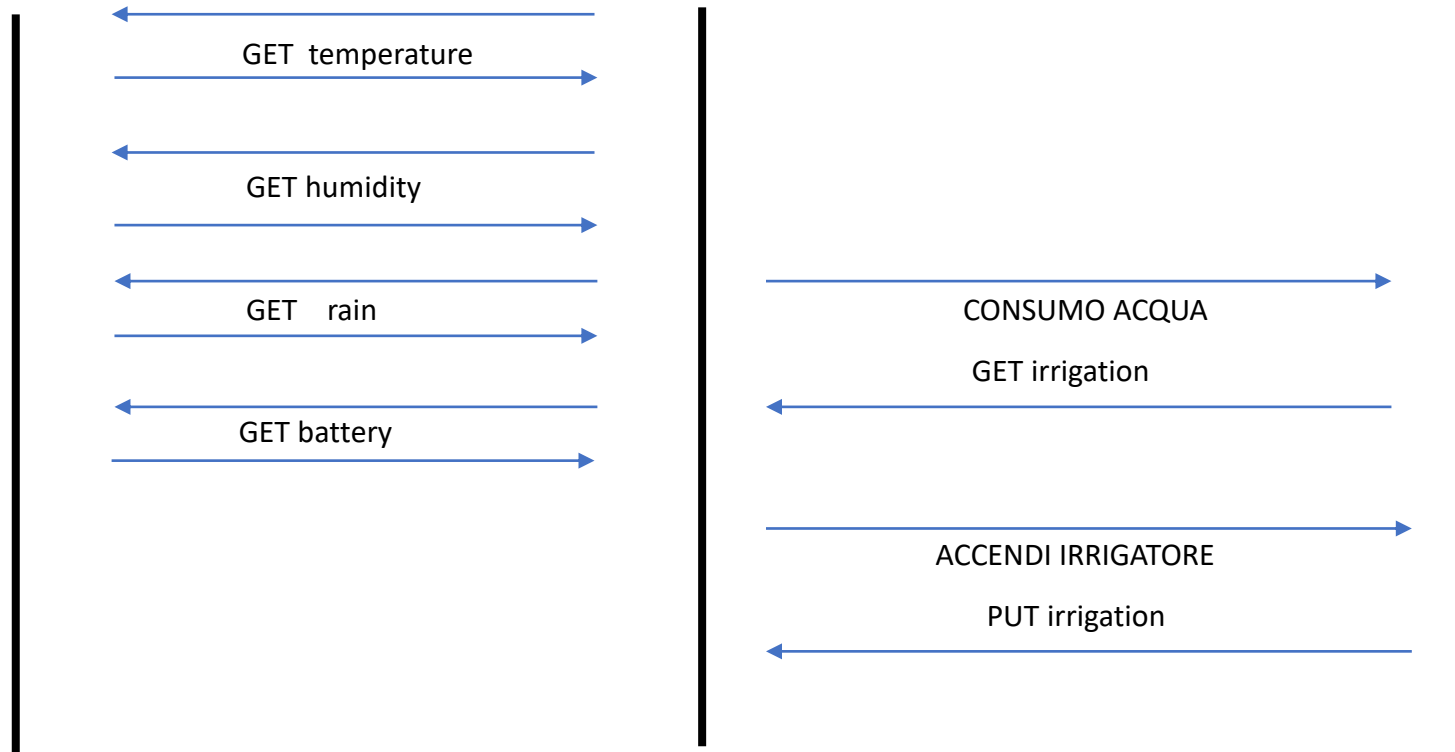
30 < Temperatura < 35	35 < Temperatura < 40	Temperatura > 40
30 < Umidità < 40	20 < Umidità < 30	Umidità < 20
20 < Pioggia < 30	10 < Pioggia < 20	Pioggia < 10
Irrigazione Low	Irrigazione Medium	Irrigazione High

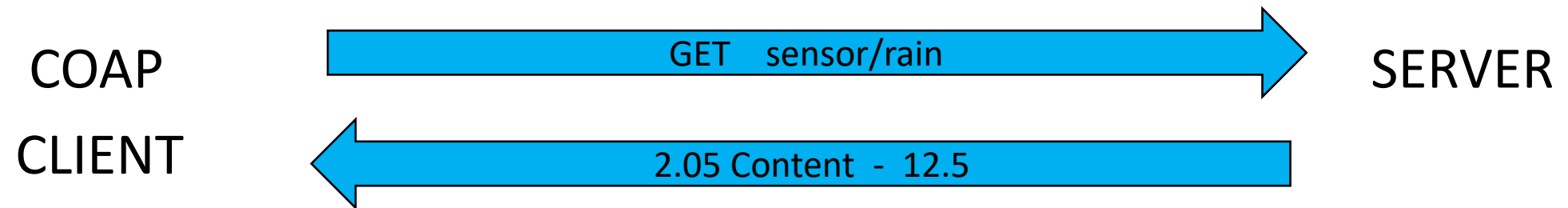
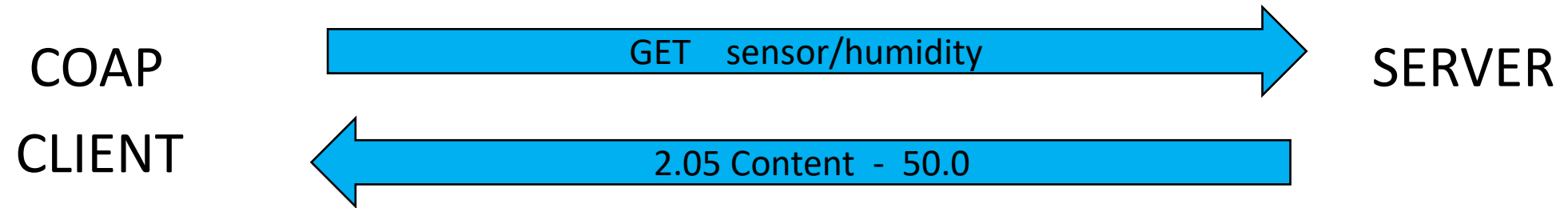
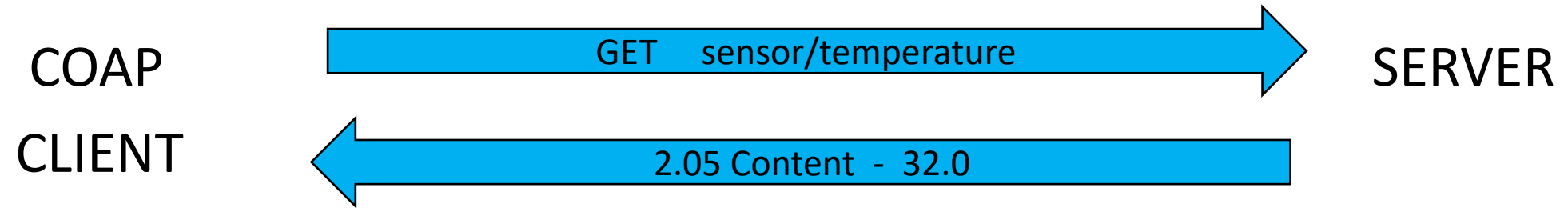
Comportamento

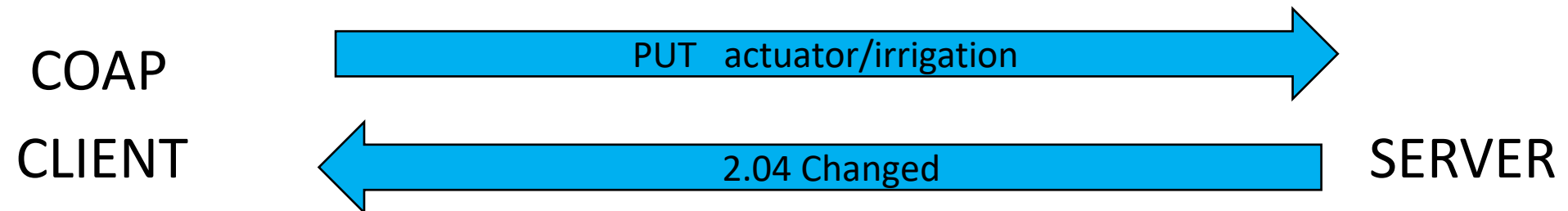
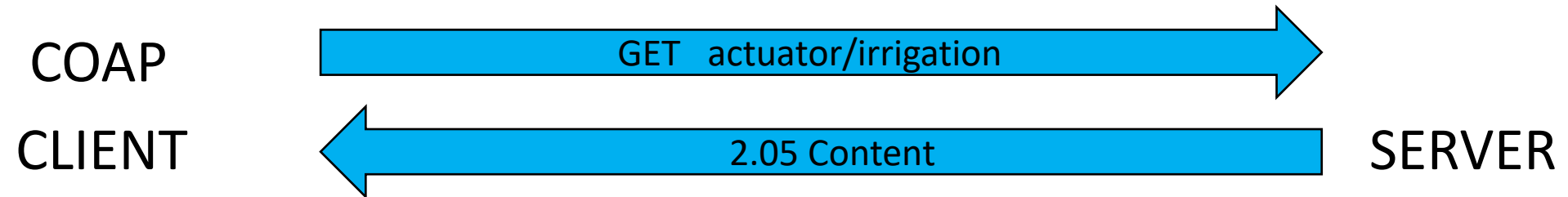
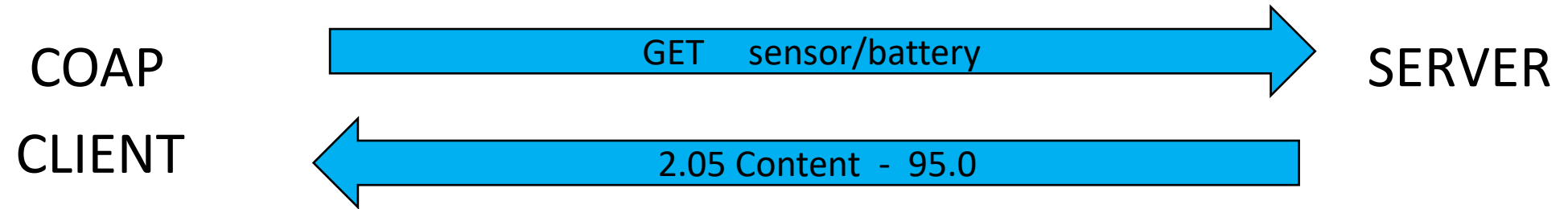
Environmental Sensor

Data Manager

Irrigation Controller







SENML

```
[  
  {"n": "temperature", "v": 35.70, "t": 1680514257, "u": "Cel", "bn": "irrigator-A1"},  
  {"n": "humidity", "v": 72.30, "t": 1680514257, "u": "%RH", "bn": "irrigator-A1"},  
  {"n": "rain", "v": 11.41, "t": 1680514257, "u": "m", "bn": "irrigator-A1"},  
  {"n": "battery", "v": 80.19, "t": 1680514257, "u": "%EL", "bn": "irrigator-A1"}  
]  
  
[  
  {"n": "low_irrigation", "v": 0, "bu": "count", "bt": 1680514257, "bn": "irrigator-A1"},  
  {"n": "medium_irrigation", "v": 0},  
  {"n": "high_irrigation", "v": 0},  
  {"n": "total_irrigation", "v": 0}  
]
```