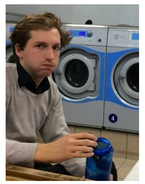
LoRa as wireless connection between low power sensors

Evaluating a stack and transport layer for live metric collection



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BACKGROUND: The evaluated hardware and software stack allows low cost and low effort data science material based on real time collected data. Collecting metrics is s a base requirement for data scientists and many environmental disciplines, be it Geologists, Oceanographers or Atmospheric scientists.

METHODS

The wireless transportation protocol called **LoRa** allows the usage of tiny microcontrollers collecting all sorts of metrics via **flexible sensors**. The low power consumption allows running on **battery for months**, the **long range** of LoRa allows cheap setups.
Microcontrollers are highly affordable and thereby allows the deployment of large numbers of sensor points.

Using InfluxDB and Grafana allows to store and visualize time series points in a scalable way and offer a public API to data scientists.

RESULTS

The used stack with all used source code is available following the **barcode** on the right. The stack only forms the baseline for data science projects to build on.

Low cost and **effort** stack for wide area **live** measurement of environmental data using **LoRa** and **Microcrontrollers**

Take a picture to
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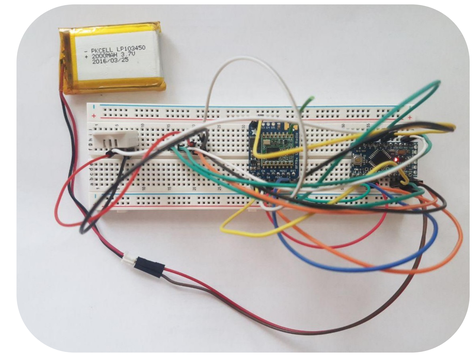
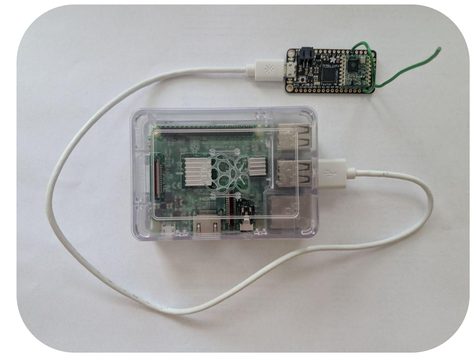
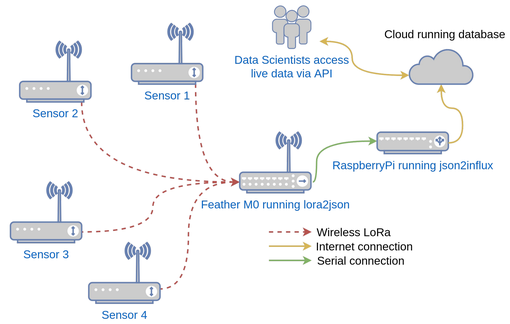


Prototype of temperature sensor node



Prototype gateway connected to database



LoRa stack with cloud database

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