



Simple home air quality monitoring platform

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The need for air quality monitoring

- According to the *Global Burden of Disease* study 1.6 million people died prematurely in 2017 as a result of indoor air pollution
- Humidity is connected to thermal comfort, sleep quality, transmission of viruses and condensation in households
- Household ventilation influences temperature, humidity and air quality



leaf^{functions}

LEAF is a low-cost IoT system developed for monitoring indoor air quality and conditions

The system provides real-time monitoring of air pollution levels, calculating the indoor **Air Quality Index (AQI)**, while also measuring **temperature** and **humidity**.

Users can explore the data through a **Telegram bot** that provides internal and external information, warnings, tips, rewards and statistics over different periods of time.

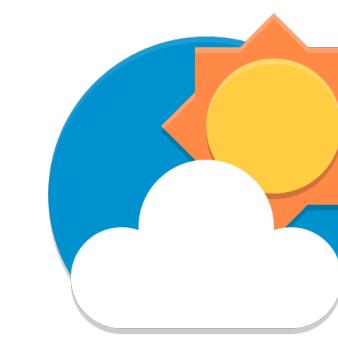
The hub provides **modularity** and **scalability**, allowing users to register multiple platforms for different rooms of the house.



Monitoring of AQI, Humidity and Temperature



Warnings, tips, statistics and rewards

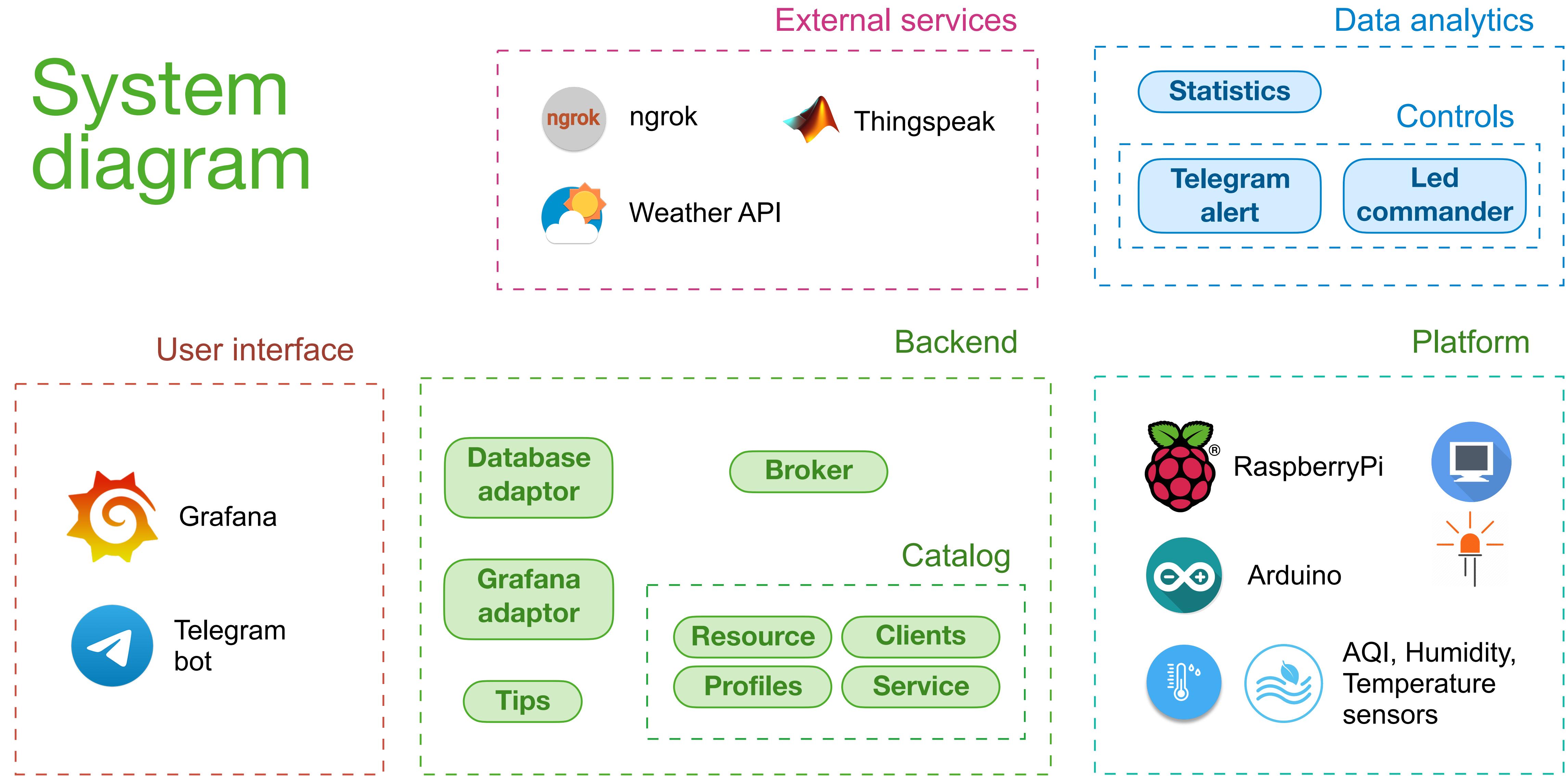


Internal and external conditions



Modular system, scalability to multiple platforms

System diagram



Thank you!

The code for LEAF is available at:

https://github.com/tommasocarluccio/IOT_Leaf

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