Connected Greenhouse

Visualization

The system allow the farmer to visualize and interactively control the graphical display. Hence, permitting to react more quickly in case of a climate anomaly.

Climate control

Control of temperature and humidity is essentials to avoid disease, enhance growth of the plantations and limit water consumption.

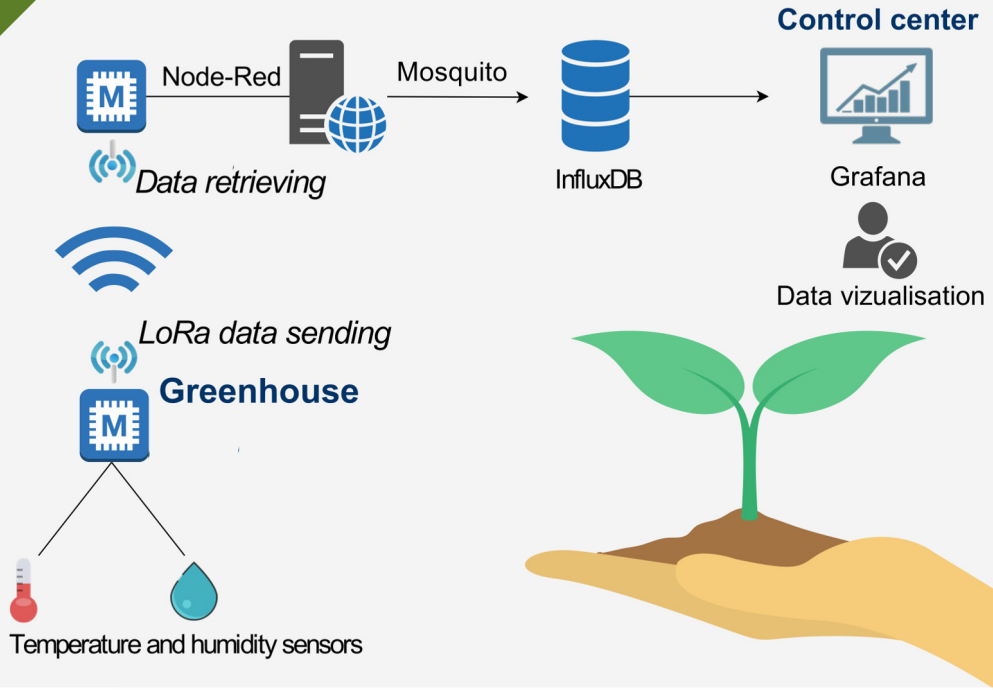
Open tools

Our hardware architecture rely on STM32 boards combined with sensors such as DHT11. Communication is done through Lora endpoints and a low-cost Lora gateway.
The logical side is using several OpenSource software such as Node-Red and Grafana. Deployment and setup will be easy through the use of the tool Docker.

**The aim of this project is to upgrade a classic greenhouse to retrieve live information about its climate. The farm exploitation is located in Saint-Cassien, in the French Alps.
Monitoring is done through Lora endpoints and a low-cost gateway.**

**This project was done in 2018, our 4th year in Polytech Grenoble. It was the continuation of previous research and development made by students in 2017.
This project was also made possible through the help of STMicroelectronis which offered boards, sensors and gateway.**

**Few endpoints will be set throughout the greenhouse and will send the information through LoRa periodically.
This data will be retrieved, stored and used remotely by the user in its control center.**



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LoRa mosquitto docker Grafana Node-RED InfluxDB

Designed by Freepik