

AirSense

Know yourself and your surroundings to live BETTER

Gonalo Oliveira, Isaac Santiago, Lu s Sousa, Nuno Carvalho, Tom s Viana

Supervisor: Prof. Jos  Maria Fernandes

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Summary

Motivated by the increasing health concerns from poor air quality, particularly evident when wildfires in Aveiro lead to the forced school closures, AirSense was developed. This monitoring system measures the environmental parameters in indoor spaces. AirSense combines affordable components with a visualization interface, enabling students and faculty to access real-time air quality data.

Methods

The system integrates multiple sensors (Figure 1) to monitor indoor air quality parameters.



Figure 1- Sensors integrated into the system.

This monitoring system integrates an architecture whose components and respective functions are shown in Figure 2.

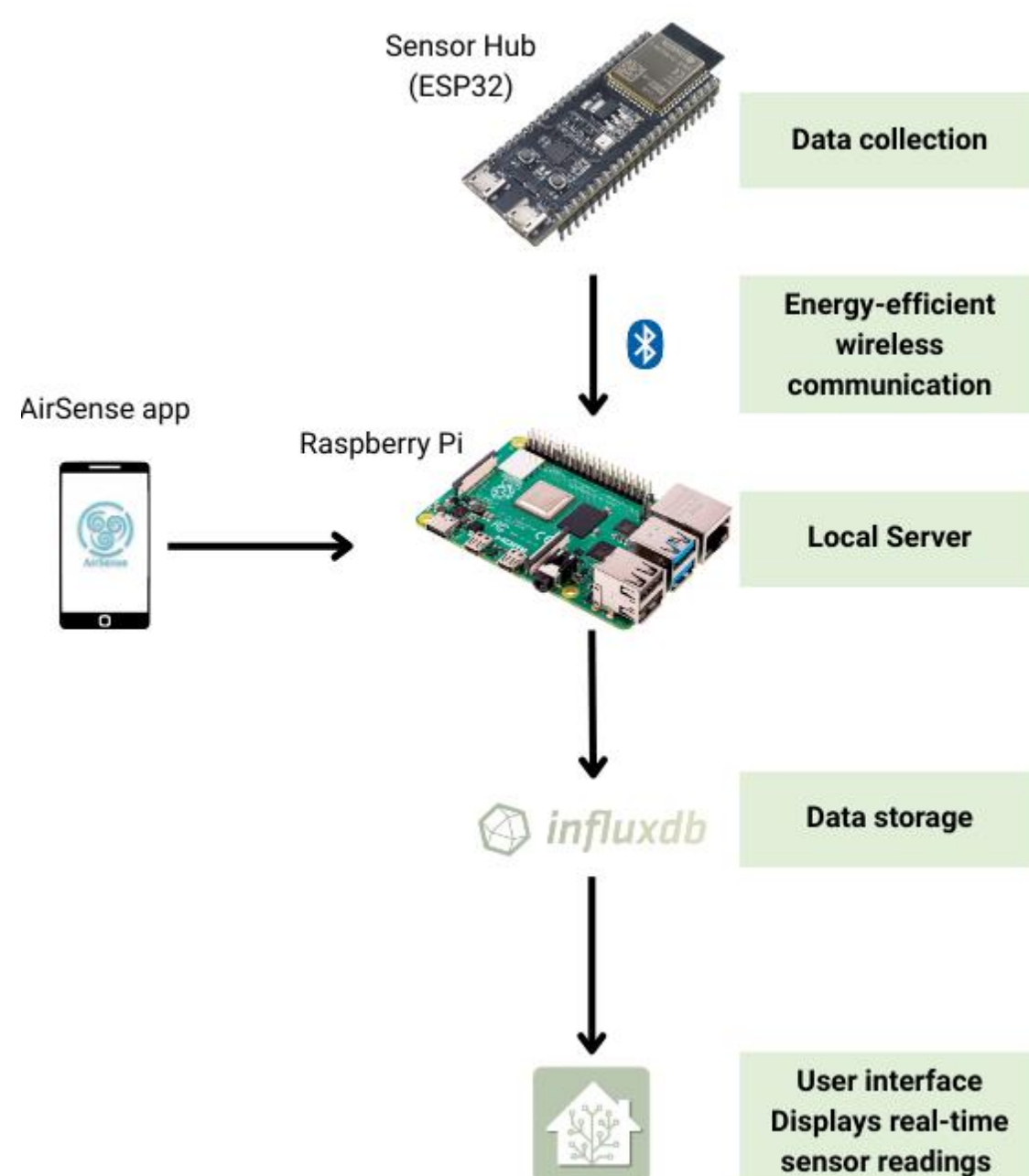


Figure 2- AirSense Architecture.

Key features

- Allows the access to current air quality conditions through intuitive graphs
- Monitors trends over time, identifies patterns and fluctuations in air
- Warnings that parameters exceed recommended thresholds are customizable

Demonstration

Airsense is user-friendly:

The user, through his/her mobile phone, opens the app and starts the system, then simply opens the Home Assistant and sees the air quality measurements.

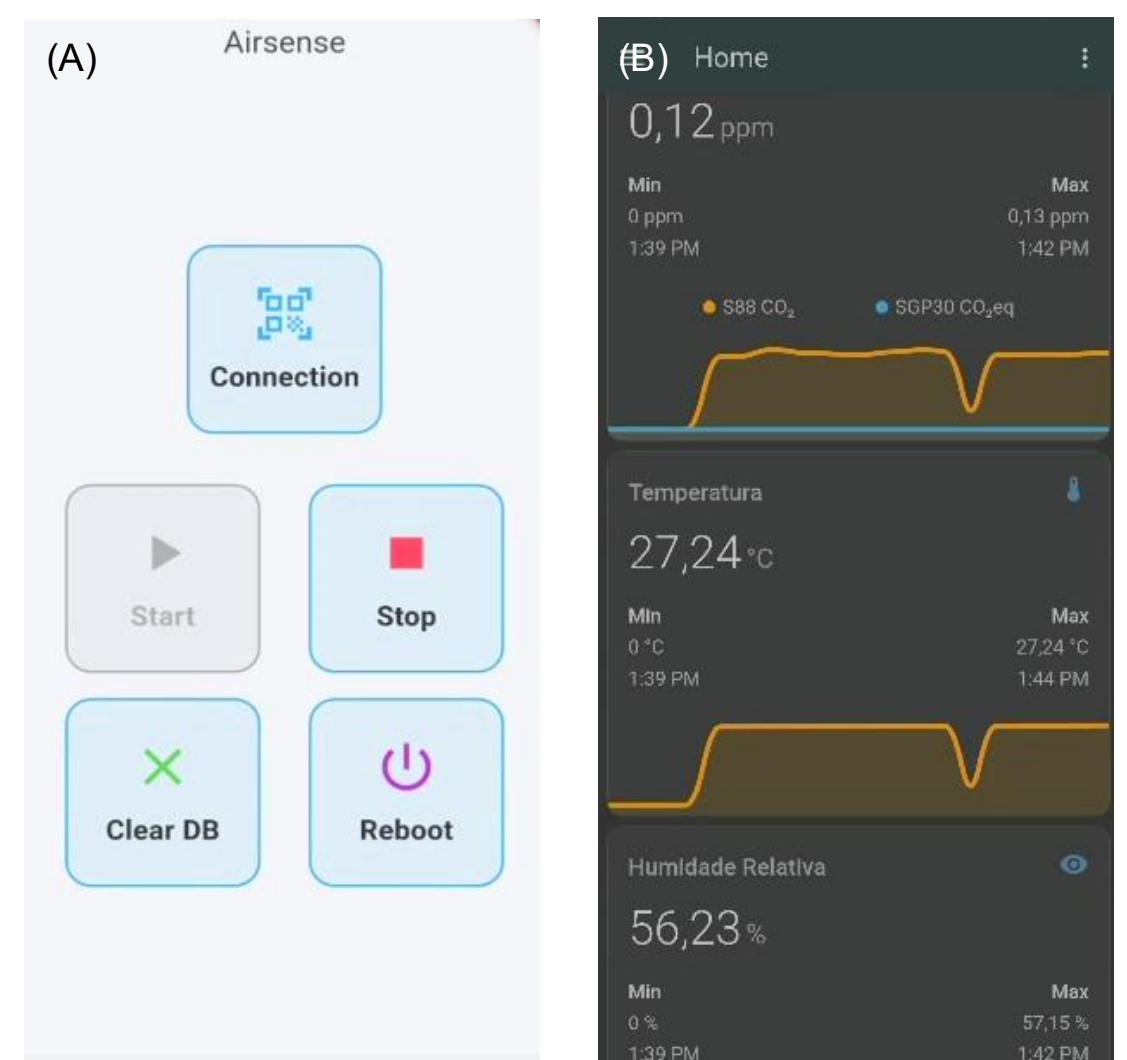


Figure 3- AirSense App. (A) Home screen. (B) Home assistant

Conclusion

We have implemented a system capable of capturing air quality in real time. Future work could focus on increasing the server's range by optimising the design of the box and implementing a wider communication network.

QR code for video demonstration!

