

IoT Energiemonitor

Graduate



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Introduction: The Kleinwohnformen association aims to collect empirical evidence for energy-efficient living. Given the absence of a commercial system that fulfills the specific requirements, the development of an open-source software based energy monitor was started.

Approach: The primary objective was to design a prototype capable of capturing data and storing it within the Azure Cloud. This cloud platform utilizes InfluxDB for data storage, which is populated via a Telegraf agent. This agent, in turn, gets its data from an event hub connected to the IoT hub. For data transmission to the cloud, Node-RED is used. In its inaugural iteration, the monitor has the capability to measure alternating current (AC) and log weather-related data. Additionally, it allows the manual input of energy sources consumed for heating purposes. Next, the integration of sensors for direct current (DC) and CO2 measurement is planned.

Conclusion: Moreover, the development team is keen on incorporating recommended functionalities. The immediate next steps involve the integration of the additional sensors, the implementation of the additional functionality, and subsequently, conducting a test installation for a member of the association in order to collect evidence for energy-efficient living.

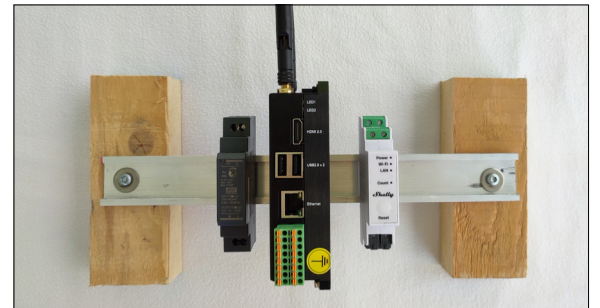
Tinyhouse

Association Kleinwohnformen



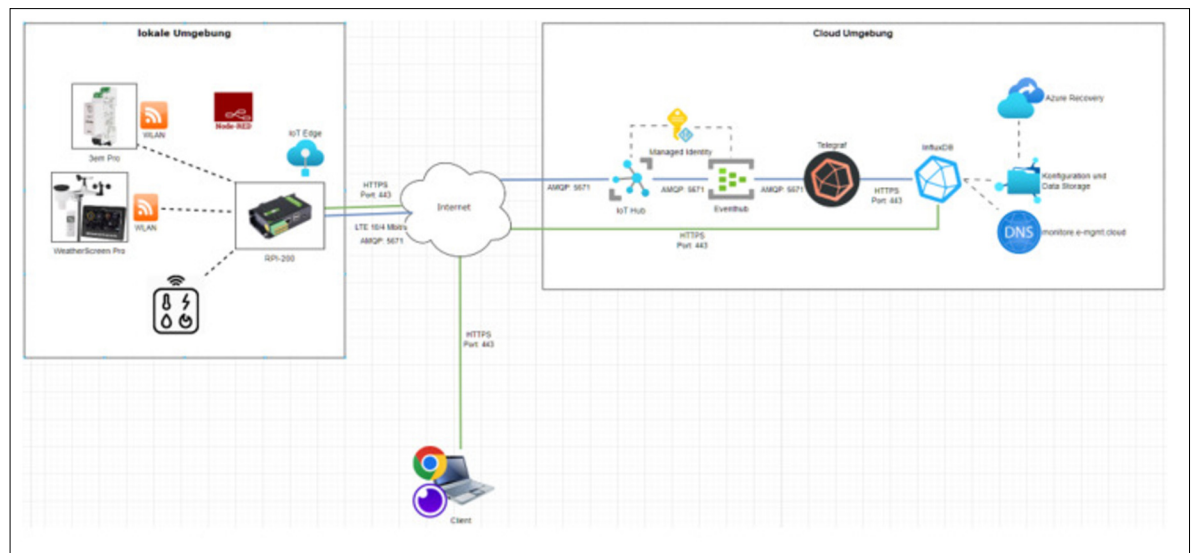
IoT Energiemonitor

Own presentation



Systemarchitecture

Own presentation



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Subject Area

Information and Communication Systems