IoT 2023

Assignment 2

Instrumenting 3A54

You should write an individual report, even if the work is performed in groups. Coordination and collaboration across groups is encouraged.

The overall goal of the assignment is (i) to instrument the classroom 3A54 with sensor nodes equipped with CO2 sensors, LoRa radios and a battery pack and (ii) to analyse the collected data to answer questions that you formulate. You should leverage MQTT, InfluxDB and Grafana.
Guides and access information will be posted at https://github.itu.dk/khjo/IoT2023-TestBedResources

Your individual report should be structured in four sections:

1. **Introduction**: What is the motivation for this deployment? What are your goals? What are the overall problems that you tackle (design, deployment, analysis)? What is your approach? What did you actually do (short statement that the rest of your report explains)
2. **Design**: Describe the data that you aim to collect and analyse and the architecture that you use for this purpose. Describe the issues that you consider in your design (functional requirements, performance requirements, power constraints, security threats). Describe how the senor nodes are programmed, how data is collected (and stored?), and how data is analyzed.
3. **Deployment**: Describe the spatial placement in 3A54 nodes of all the nodes that you rely on for your analysis (e.g., only your nodes, all nodes, a subset of the nodes). Describe the issues you faced at deployment time and the lessons you learned during the time period the nodes were deployed.
4. **Analysis**: Describe the quality of the data that was collected and possibly the data cleaning procedures that you employed before analysis. Describe the analysis that you conducted and the insights you gained from it, based on the goals you set in the Introduction.