Task Description

The challenge of the task is to implement a basic solution that achieves semantic interoperability between the IoT platforms of company FW and SW. Company FW's platform is built on FIWARE [1] while company SW's platform uses semantic technologies offering a SPARQL interface. SW has granted FW access to their data. Your task is to implement a basic synchronization mechanism for sensor data that is ingested into SW's platform and also made available to FW's platform. Your solution should satisfy the following minimal requirements:

1. Use the StreaML data set [2]. The data is further described at [3]
2. Design a basic NGSI data model as used by the FIWARE IoT Broker[4] that you will use in the next step, i.e. define the entities, types, attributes and metadata.
3. Develop a simple adaptor that inserts the data of Step 1 into a local instance of the IoT Broker. Documentation about how to deploy the IoT Broker locally is available at [5]
4. Demonstrate that your solution is correct, i.e. that for each sensor measurement in your RDF data set, there is a measurement in FW.

Implementation of any of the following features is considered a plus:

1. Updates: Provide a SPARQL endpoint for updating your data set that immediately results in an update of the IoT broker.
2. Generic data sets: Demonstrate that your solution can work with certain other RDF data without modifying your code
3. Write a simple UI in which a user can specify a sensor and time interval and inspect the sensor data in a user friendly way. Your UI should be configurable to use either SW's or FW's platform

[1] https://www.fiware.org/
[2] http://hobbitdata.informatik.uni-leipzig.de/StreamMachineLearning_1.0/
[3] https://project-hobbit.eu/open-challenges/streaml-open-challenge_details/
[4] http://aeronbroker.github.io/Aeron/
[5] https://github.com/Aeronbroker/Aeron