Politenico di Milano

Dipartimento Elettronica, Informazione e Bioingegneria

Homework IoT Project

From Device to Platform

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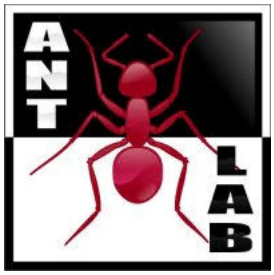

Abstract

This document offers some comments for the fifth activity for the course "Internet of Things", Academic Year 2019/2020.
This document has been also uploaded on the following GitHub repository: https://github.com/Framonti/IoT_Projects
The results were uploaded to the following TeamSpeak channel: https://thingspeak.com/channels/1070054

0.1 Comments on Implementation

- Instead of using a fixed topic (so, a string), the motes sends a TopicID (1 for mote2, 2 for mote3). The final topic processing is left to Node-RED.
- The motes send messages as JSON strings, in the form {"Value": *value*, "TopicID": *TopicID*}. However, due to compatibility issues with Cooja, what is received is slightly different (see 2). A function in Node-RED takes care of this problem, and restores the original string.
- Since ThingSpeak limits the number of receivable samples in a time interval, we introduced a Rate Limiter in Node-RED (1 sample/minute).
- The random generation of values is delegated to the TinyOS component RandomC.
- We generated and plotted more or less 30 samples smaller than 70.

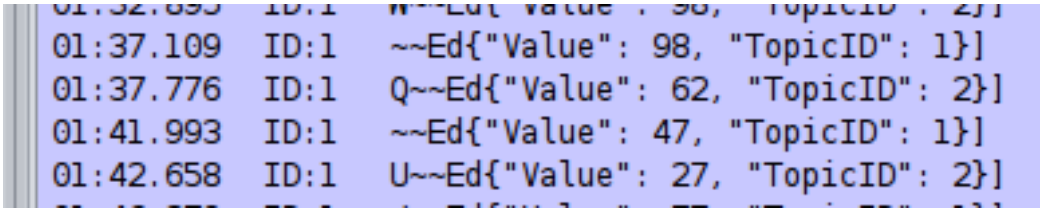

Figure 2: Messages Received by Cooja