Luleå University of Technology

Third year project

Sensor data aggregation through CoAP

***A*uthors:**
Sophia Bergendahl
sopber-8@student.ltu.se

Edvinn Bruun
edvbru-9@student.ltu.se

William Gustafsson
wilgus-9@student.ltu.se

Christoffer Holmstedt
cihhol-7@student.ltu.se

Marcus Rådman
marrdm-9@student.ltu.se

Kristoffer Svensson
kirsev-9@student.ltu.se

Ludwig Thurfjell
ludthu-7@student.ltu.se

***S*upervisors:**
Ulf Bodin
ulf.bodin@ltu.se

Jens Eliasson
jens.eliasson@ltu.se

Rumen Kyusakov
rumen.kyusakov@ltu.se

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Project Description

Background

Luleå University of Technology conducts research on lowpower wireless microprocessors called "Mulle". These microprocessors can be used for various things depending on which type of sensors you connect to it, everything from measuring temperature or vibrations in a car to analyzing the quality of the road that you drive on.

Every year northern parts of Sweden are used for testing cars during winter conditions. To test a car you first decide what you want to test, then you test with local sensors logging within the car. When enough data is collected you return back home. At the testing facility the data is now available for analysis. Depending on the results from the previous runs you might want to test some parts in more detail so you re-configure all sensors and go out for another test run.

This process is time consuming when you need to return to testing facility to be able to analyze and re-configure all sensors. In todays society most computers are connected to internet and/or other private networks, most of these computers have the ability to be remotely configured and maintained. The goal with this project is to be able to analyze data from sensors in realtime and re-configure them on the fly while testing is in progress.

Project Targets

1. Be able to send live sensor data from multiple "Mulles" to an online logging server/service.

2. Be able to read sensor data on the web with both a PC (web browser) and through an Android mobile device.

3. Be able to re-configure the sensors through a web interface and through an Android mobile device.

Sensor data aggregation through CoAP
`Work in progress`

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1. Bakgrund och övergripande beskrivning av projektuppgift
    (a) Övergripande överenskommelse med kravställare, används också i Resultatrapport
2. Beskrivning av uppgifter, prioritet, estimerad tid (verklig tid), förändringar
    (a) Product backlogg
    (b) Sprint backlogg - ska diskuteras men själva backloggen ska inte med.

Our results

Project Background

TODO - Copy from main article when done. Christoffer Holmstedt 2012-02-16

1. Bakgrund och övergripande beskrivning av projektuppgift
2. Beskrivning det färdiga programpaketet, resultat med testning

Arbetsrapport (redovisning av projektarbete)

1. Diskussion och reflektion om projektarbete, kopplat till Scrum
2. Redovisning av arbete mot kravställare med omfattning och kvalité

Referensrapport (Så att andra kan fortsätta arbeta där vi slutar)

1. Beskrivningar och instruktioner för hur det färdiga resultatet kan tillämpas och utökas vid behov - helt enkelt referensdokumentation för det programpaket ni utvecklat