MASTER THESIS –
VISUALIZATION OF IOT DATA

Background
Ericsson has a vision of a Networked Society, where everything that benefits from being connected will be connected. Therefore, Ericsson Research has started numerous collaborations with industries in mining, robotics, cars, trucks etc. in order to understand their scenarios and requirements of connectivity. For instance, we have ongoing prototyping with Scania, ABB, SKF, Boliden and Volvo.

The understandings from these Internet-of-Tings (IoT) collaborations are fed into the ongoing research and standardization of 5G, which we develop to be the communication system of choice for the Networked Society.

At Ericsson Research in Linköping, we have started a project with Linköping City and Tekniska Verken. It is about providing more efficient remote heating in the new city area Vallastaden, which is being built right now close to Linköping University.

The idea is that with denser measurements over time and surface, the control of the remote heating system could be further optimized in order to save energy and costs. Measurements are for example, temperatures, pressures, flux and other system parameters. The measurement data will be collected in a few central points in Vallastaden, then wirelessly transmitted to Ericsson cloud environment. The data will then be analyzed and visualized by Ericsson in order to help Tekniska Verken to optimize the settings of the remote heating system.

Thesis Description
The purpose of this thesis work is to propose and implement the IoT measurement data visualization described above. The requirements of the visualizations will be developed in close cooperation with the remote heating control expertise at Tekniska Verken.

The first task is to write that project specification. The visualization design will be performed in an in-house JAVA/JAVA FX based visualizer at Ericsson Research in Linköping in collaboration with Ericsson advisors. Measurement data should be plotted in a GUI as time-plots, correlation diagrams and in other forms proposed by the student etc.

Eventually, the plan is to show-case the visualization at the large national fair of Vallastaden Expo September 2017.

Contact Persons
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Qualifications
This project aims at Master of Science students in Media&Information technology, Computer Science or electrical engineering. Since our visualizer is based on JAVA/JAVA FX, JAVA competence is required. Experiences from GUI design is beneficial. Successful candidate typically has average grade above B/4.0.

Extent
This position is for one student at Ericsson Research in Linköping, Mjärdevi. Scope is for 30 hp

Location
Ericsson AB Mjärdevi, Linköping

Preferred Starting Date
January 2017

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