Master's Thesis

Visualizing System Architectures with Time Series and Event Metadata

Student:	Ante Dilber
Advisor:	Dipl.-Ing. Andreas Schörgenhumer
Start date:	04.03.2019

**o.Univ.-Prof. Dr. Dr.h.c.
Hanspeter Mössenböck**
Institute for System Software

P +43 732 2468 4340
F +43 732 2468 4345
hanspeter.moessenboeck@jku.at

Secretary:
Birgit Kranzl
Ext. 4341
birgit.kranzl@jku.at

Linz, March 04, 2019

Visualizing software systems with their components (architecture) and dynamic data (metadata) is an important part in system monitoring. The data provided in this thesis represents such a system, including system components (hardware components as well as abstract components) and their connections, and detailed time series data and event data that are linked to those components.

The goal of this thesis is to develop a visualization of such a system as an interactive graph, which should include visualizing nodes (components of the system), edges (connections between the components), multiple time series for a given node, setting a filter on the time interval to be observed, setting a filter on the time series metrics to be observed, and visualizing events in the time series graphs.

The scope of this thesis is as follows:

- Develop an interactive visualization tool for system components and dynamic data (time series and events)
- Integrate filtering, zooming and grouping techniques for complex data
- Design for scalability (up to thousands of components)

Modalities:

The progress of the project should be discussed regularly with the advisor. A time schedule and a milestone plan must be set up within the first 3 weeks. It should be continuously refined and monitored to make sure that the thesis will be completed in time.

The final version of the thesis must be submitted not later than 04.03.2020.