



OPONENT REVIEW OF THE MASTER'S THESIS

Implementation of the DMI Display for the ETCS On-Board Sub-System

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The presented master's thesis is focused on the implementation of DMI Display software for the purpose of the train simulator. I evaluate the thesis as more exacting due to programming parts.

Introductory chapters conclude principles of ETCS and requirements for DMI display. This part is written in clearly form – the author describes basic principles but he doesn't get bogged down in details unnecessarily, he used references to the TSI and other specification instead of copy texts. It is evident that the author used and studied appropriate literature and he understand this area.

Then, the student selected target HW platform (display produced by AMIT which is really used in vehicles) and compares several operating systems (Linux, Windows Embedded) and platforms. The author selected Windows Embedded, .NET platform and C# programming language. I think it is an optimal variant for intended purpose. The practical outputs are two programs (own DMI display and EVC simulator) debugged on PC platform. Both programs communicate and simulate real communication on board. The positive is that the behavior of EVC simulator is configurable by scenarios in text files. The implementation is described clearly, with samples of codes. It would be suitable to describe the architecture of SW using some standard diagrams, for example UML class diagram.

The candidate has demonstrated that he is capable of advanced creative engineering attitude.

From formal and linguistic point of view, the thesis is on a very good level. The work assignment has been fulfilled in all points.

Questions:

1. Do you see any problem related to safety requirements in TSI and requirements of EN50128 if selected platform (Windows Embedded, .NET platform and C# programming) were used in real vehicle?
2. How complicated would it be to rewrite the code under other platform (Linux, C++ programming language and another graphical library)?

I evaluate the diploma thesis by the mark **A (excellent)** and I recommend it for the defence.

Date: 15th June 2017

Signature: doc. Ing. Vít Fábera, Ph.D.