Report from Industry-Visit at CC Systems

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CC Systems develop control systems for rough environments, typically for heavy vehicles. They have both electronics and software development, and strive to take responsibility for development of whole sub-systems at their own sites, rather than as consultants at customer's sites. They have around 110 employees with sites in Alfta, Uppsala, and Västerås. I visited the Uppsala site for 2-3 days a week, in approximately 2 months time. Uppsala hosts the major part of the software development. More information about the company is available at their home-page [1].

In cooperation with CC Systems (mostly with their Ph.D. student Anders Möller) we developed a prototype component technology, for safety-critical automotive software applications. We illustrated the use of the technology by a case study, where we developed an adaptive cruise controller (ACC) application. The application was fictive, but at the same time a domain specific function, which could have been ordered as a pilot study at the company. The hardware, operating system, compilers, and development tools in form of a simulation technique, were selected among the companies repertoire, and are thus highly realistic.

We used the application as basis for an evaluation and a discussion of the appropriateness and applicability of our component technology in the considered domain. Our study provides initial positive evidence of the suitability of our technology, but also shows that it needs to be extended to be fully applicable in an industrial context.

A paper with more information will appear in WORDS2005 [2].

References

[1] CC Systems Home Page, http://www.cc-systems.se

[2] Mikael Åkerholm, Anders Möller, Hans Hansson, and Mikael Nolin, Towards a Dependable Component Technology for Embedded System Applications, To Appear In Tenth IEEE International Workshop on Object-oriented Real-time Dependable Systems (WORDS2005), Sedona, Arizona, February, 2005