

Software trends in automotive embedded systems

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Abstract text The modern car electronics in high-end cars today consists of over a hundred ECUs with a total software footprint of several gigabytes. It's very likely that embedded software engineers would be involved in the development of such ECUs, being an engine controller, an instrument cluster or an infotainment device running on multi-core CPUs. This talk will cover some of the trends seen in the development of these ECUs, and clarify some topics commonly used. AUTOSAR and ISO26262 are two buzz words commonly used in the automotive industry, but what do they actually mean? The talk will cover these topics briefly, as they are the basis for understanding the coming trends of consolidation, virtualization and ADAS solutions. These trends have their challenges with things like multiple operating systems, real-time as well as safety and not to forget recent security requirements in combination with more and more connectivity solutions and advanced new SoCs. It's easily seen that we are facing a more complex software scenario in the future, and this talk will cover software separation as a means of managing this complexity.