

Fachbereich Computerwissenschaften

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von

Dipl.-Inf. Peter Ulbrich
(Wissenschaftlicher Mitarbeiter)
Universität Erlangen-Nürnberg Informatik 4

zum Thema:

Challenges in real-time application development – The I4Copter project

Abstract:

The I4Copter (quadrocopter) project was started for evaluation and educational purposes, where it is intended to be deployed as a creditable demonstrator for safety-critical mission scenarios. Beyond the domain of computer science, a quadrocopter is a physically highly complex system and building also includes challenges in the areas of electrical engineering, manufacturing, and control engineering. The physical parameters of the system have a serious impact on the real-time application, and system developers have to face them.

This talk will evaluate the development process of the flight-control software essential for a quadrocopter. We'll start with some interesting facts on the application analysis and the physical modeling, continuing with the derivation of the necessary physical parameters down to some design issues of the concrete system implementation. A discussion of the drawable conclusions and the lessons learned will complete the talk.