



## METADATA

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### Abstract

The key objective of this unique textbook on Embedded Systems is to present a good understanding of embedded systems architecture, as well as a detailed methodology for the multilayered design of embedded systems and their applications with emphasis on network embedded systems. Main topics of the book are the understanding of communication processors and system architecture, the matching of requirements with system specifications, basic hardware design principles, including the interfacing of various networks physical layers, Linux operating system porting on proprietary system architectures, as well as network device driver programming and performance evaluation of network embedded systems. From this point on, system architecture is transparent to

the development of embedded applications under certain limitations. In this framework, several embedded applications are highlighted. In the laboratory sessions, the reader will familiarize with the development of adaptive Linux kernel and filesystem images for a broad range of network embedded systems in the rise of the IoT era. At the end of the detailed study, the reader will be equipped with advanced expert and analytical knowledge for the consistent design, implementation and validation of embedded systems integrating network devices. The obtained knowledge will allow the critical and analytical deepening, as well as performing innovative research and critical development in the broad scientific domain of embedded systems and applications.

