

Embedded Systems Conference India 2010

**Bangalore, India
21-23 July 2010**

ISBN: 978-1-61839-140-7

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2010) by EE Times Group
All rights reserved.

Printed by Curran Associates, Inc. (2011)

For permission requests, please contact EE Times Group
at the address below.

EE Times Group
600 Harrison Street
5th Floor
San Francisco, CA 94017

Phone: (415) 947-6929

david.blaza@ubm.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

This Code Stinks! - The Worst Embedded C/C++ Code Ever	1
<i>Michael Barr</i>	
Keeping Bugs Out of Firmware with Coding Standards	10
<i>Michael Barr</i>	
How to Choose the Right FPGA for Your Application	33
<i>Clive Maxfield</i>	
Introduction to Power over Ethernet (PoE)	42
<i>Babu C. V. Diyanesh, Sethuraman Sarvanan</i>	
How to Write Reusable Device Drivers in C	56
<i>Gary Stringham</i>	
Best Practices for Hardware/Firmware Interface Design	94
<i>Gary Stringham</i>	
Moving From Analog to Digital Power Supplies	168
<i>Ramesh Kankanala</i>	
Synchronization in Distributed Systems	181
<i>Kavitha Shanmuga Sundaram</i>	
ARM Development using Open Source Tools	207
<i>Kiran Penneru</i>	
Why Static Analysis Tool Deployments Fail (And How...)	258
<i>Ramakrishna Rao, Piyush Jain, Sathyanand Balan</i>	
Real Time Programming with Windows	272
<i>Shivakumar Muruges, Rashmi Mattur</i>	
Migration from Proprietary RTOS to Carrier Grade Linux in Telecom Equipments	299
<i>Srinivas Adyapak, B. Thangaraju</i>	
The Top 10 Firmware Flaws: How to Find, Fix and Prevent the Worst Embedded Software Bugs	310
<i>Michael Barr</i>	
Debugging of a Remote Embedded System Through Cell Phone	342
<i>Himanshu Shrinkhal, Amit S. Joshi, Srijita Sengupta</i>	
Designing Software for Multicore Processors	355
<i>Rob Oshana</i>	
Digital Signal Processing in Embedded Systems	379
<i>Rob Oshana</i>	
Firmware Testing for Embedded Systems	416
<i>Rob Oshana</i>	
Optimizing Embedded Systems for Performance, Memory and Power	446
<i>Rob Oshana</i>	
Five Myths About Real-Time Operating Systems	488
<i>Michael Barr</i>	
Secure Device Design - Critical Steps to a Successful Implementation	506
<i>Andre Schmitz, Roland Dudemaine</i>	
Author Index	