

Embedded COMPUTING DESIGN

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Five Minutes with...Eric Miller, CEO Avi-On



Rich Nass, Embedded Computing Brand Director

Connecting home appliances, such as lighting to the Internet of Things is supposed to be a no-brainer for the consumer. If that's not the case, then the technology probably isn't going to fly. I've seen lots of different schemes employing various wireless technologies to make the connection. The latest that I've come across is Bluetooth, but using a mesh topology, offered by Avi-On Labs . That technology was on display recently at CES, where I encountered Avi-On's Co-Founder and CEO Eric Miller. Eric joined... [Continued...](#)



Embedded University: IoT Overview and the Major Issues - Class 1 of Device Management 101

In this lead-off class, we will briefly review the principles of the IoT and some of the basic configurations that we may encounter (star with gateway, tree, and mesh). We will look at the major issues we face as these networks become more complex, including data issues, communication issues, device monitoring and troubleshooting, and system security. Sponsored by: Wind River

Register Today

LED lighting comes with its own unique design issues



Rich Nass, Embedded Computing Brand Director

Lighting generally takes center stage when it comes to home or building automation in IoT or industrial applications, or at least shares the spotlight. You can go one step further and put streetlamp lighting into that same category, although now you've likely extended in "smart cities." When you peel back a layer or two and look at the underlying technologies, there's actually a lot more there than meets the eye. If you balance the application properly, the cost savings from simply adding smarts to... [Continued...](#)

Revisiting radio tuners in car head units



Majeed Ahmed, Automotive Contributor

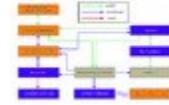
Advanced driver assistance system (ADAS) features are taking over the head unit in cars, and that inevitably requires more space and power. So how can car OEMs take things out of the head unit and move in more ADAS functions?

Requirements traceability forms the foundation for thorough software testing



Jay Thomas, LDRA Technology

The ability to define and bi-directionally trace requirements throughout the software development lifecycle and throughout all the development artifacts is an indispensable aspect of developing high-assurance software. In many cases, it's also part of having the code certified by regulatory bodies. And it's a critical element to ensuring that today's critical software is reliable, safe, and secure. All three of these aspects, but especially security, which is a foundation for the other two, must be built into code from the ground up. It has... [Continued...](#)



ERP software use grows in small businesses



Karandeep Viridi, Progressive Markets

Enterprise resource planning (ERP) has gained popularity as it simplifies the managing of business operations is gradually being implemented in small to large enterprises worldwide. The ERP software lets organizations access a system of highly integrated applications and assists in specific back-office activities. Large businesses have embraced the technology and the trend is gradually catching up with medium and small business. For small businesses, ERP software can boost sales, formulate manufacturing production goals, and develop high-quality parts required by the customer. Progressive Markets recently... [Continued...](#)

Hardware emulation for multi-level debugging methodology



Lauro Rizzatti, Verification Consultant

Chip design debug is a difficult discipline, and system-on-chip (SoC) design has made it more so. It's like the proverbial needle in the haystack. For SoC designs it's two haystacks, one for software, the other hardware. Software development groups often point a collective finger at the hardware group claiming it's a hardware bug, while the hardware group snaps back, claiming it is a software bug. It's hard to know who's right without effective verification tools to pinpoint the problem. That's where hardware emulation comes in.

IoT security starts with secure boot



Abhijeet Rane, Sequitur Labs

Securing Internet of Things (IoT) devices is at the top of everyone's list – or so it seems. Wherever you look there is a new story of more compromised devices that reminds everyone, once again, of the seriousness of the problem. There is also, it seems, a lot of confusion about how to properly secure such devices. Clearly, it cannot be accomplished with PC era practices. There is no antivirus (AV) software solution for IoT devices unless the device has a powerful processor and sufficient memory, which, of course, the vast majority do not. In the post-PC era, security practices must evolve as well.

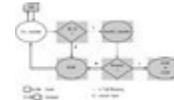


Security and the Cortex-M MPU, part 4: SWI API for MPU systems



Ralph Moore, Micro Digital

The Cortex-M v7 memory protection unit (MPU) is difficult to use, but it is the main means of hardware memory protection available for Cortex-M3, -M4, and -M7 processors[1]. These processors are in widespread use in small- to medium-size embedded systems. Hence, it is important to learn to use the Cortex-M v7 MPU effectively in order to achieve the reliability, security, and safety that modern embedded systems require.



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