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Edward Paden

Senior Embedded Software Engineering Leader – Firmware, Architecture, and Product Delivery

Creative, people-focused engineering manager with deep expertise in low-power embedded systems, firmware, and system architecture. Proven mentor who develops engineers into senior and principal roles while leading multi-million-dollar product launches. Inventor in 13 published patents, specializing in creative system innovation from startups to Fortune 100 companies.

Technical Expertise

Embedded Systems | Firmware Engineering | AWS (S3, EC2, QuickSight) | GitLab (Repos & CI/CD) | Secure Systems (Firmware Encryption, CRC, OpenVPN) | Microsoft Visual Studio | Xcode | Jira/Confluence Management | Service NOW | IoT Protocols (MQTT, USB, I2C, SPI, UART) | Linux Systems | Test Automation (Python, CLI) | Lab Equipment (Scopes, PSUs, Protocol Analyzers) | C, C++, Java | Agile/DevOps Workflows

Areas of Expertise

DevOps-Inspired Engineering Leadership | SDLC (Software Development Life Cycle) | Agile Methodologies, Kanban/Scrum | Cloud-Based System Monitoring | Embedded Systems Innovation | Cross-Functional Collaboration | Vendor Integration | CI/CD Process Improvement | Infrastructure Readiness | Career and Team Development

Professional Experience

Sealed Air Corporation Charlotte, NC February 2016 – January 2025
Manager, Electrical (Embedded) Engineering Team, *Protective Packaging Equipment Engineering*

Managed engineering execution and performance of 10+ firmware, software, UX, & electrical engineers for 9 years.

Leadership and Team Building

- **Achieved 90%+ team satisfaction in anonymous belonging surveys** since 2018 by using inclusive leadership.
- Assembled a world-class team, hiring 7 engineers and integrating relocated staff engineers from Danbury, CT.
- Promoted 6 engineers to Senior, Principal, and Principal+ roles through committee advocacy, coaching and mentoring.

Engineering Modernization & DevOps

- **Strengthened DevOps foundation and observability** by automating system validation, securing firmware delivery, and building telemetry pipelines for future Infrastructure-as-Code (IaC).
- **Hands-on leader for board bring-up** and hardware verification across embedded systems, working directly with EE teams to validate power delivery, signal integrity, and interfaces using lab instrumentation and test scripts.
- Moved my team from SVN to GitLab, modernizing CI/CD workflows and launching GitLab DevOps practices.

Product: Sealed Air's First Touchscreen Bubble Wrap Inflator - BWI

- **Enhanced system reliability and diagnostic capabilities** by designing crash dump pipelines, automated firmware test/install systems, and embedded device monitoring for manufacturing and field deployments.
- **Built 24/7/365 remote monitoring with AWS** S3, EC2, & QuickSight; telemetry publishing via MQTT and real-time stakeholder reporting during field trials, ensuring stakeholder alignment.
- **Secured firmware deployment and manufacturing processes** with encrypted image delivery, CRC-verified installations, and post-deployment fault diagnostics.

Product: "Acorn:" A Food Safe Real-Time Dashboard/Edge Server/Display for Meat Packing Plants

- **Spearheaded a 24/7/365 Linux-based edge server** with a custom dashboard app for real-time line monitoring.
- Increased dashboard uptime and observability with automated, New Relic, fault detection and notification, telemetry pipelines, and secure remote diagnostics.

Product: SpeedyPacker 7 (SPK 7) Foam-In-Bag Protective Packaging System Redesign

- **Built a cloud telemetry pipeline** with AWS CLI and server-side scripting, automating field data reporting.
- Owned team technical direction the next gen SPK-7—a 208V platform with BLDC motors, pumps, heaters, sealers.
- **Drove innovations in UX**, edge integration, connectivity (USB, LAN, Wi-Fi, Bluetooth, CAN), and display tech.
- Validated SPK-7 platform modernizations through continuous 24/7 monitored field trials in NA and EMEA.

Alpha High Theft Solutions — Charlotte, NC — April 2015 – January 2016
Principal Firmware Engineer & Scrum Master

Managed Scrum and developed low-level firmware and software for low-power devices.

- Wrote ultra-low-power firmware to squeezing 3.5+ years from a 200mAh battery in a theft sensor.
- Built Yocto-based BSPs for real-time SoCs with internal tools and docs for integration and test.
- Verified battery life, system states, and all digital and analog signals including audio output using scopes, analyzers, and custom test firmware.

Old Dominion Freight Line — Thomasville, NC — January 2012 – April 2015
Senior Mobile Application Architect

Led selection, development, and field trials of ODFL's 3rd-gen handheld, integrating third-party vendors/software solution providers.

- **Reduced paper handling and storage by 80%** by delivering ODFL's 3rd-gen .NET mobile handheld architecture and design, used by ~4,000 drivers at ~230 terminals; published in US & EU patents.
- **Improved work transparency and alignment between developers and operations with SAFe Scrum rituals.**
- **Eliminated handheld return-to-dispatch delays and boosted battery life** by 60–90 minutes by diagnosing excessive Layer 4 & 7 retries with Wireshark.

Additional Relevant Experience

Yap Inc. — Charlotte, NC
Director of Developer Relations and Software Developer

Performed back-end development, supported customer developers, maintained SQL usage billing databases, and built Java EE applications on JBoss. Amazon acquired Yap, incorporating its technology into the first-generation Amazon Echo.

- Built trusted technical partnerships with AT&T, T-Mobile, MetroPCS, and others to enhance developer success.
- **Improved speech accuracy by 23% b**y diagnosing and reporting a PCM buffering issue in AT&T's base stations.
- Developed and maintained Yap's billing dashboards using SQL, phpMyAdmin, and Java JDBC to publish statements.
- **Reduced AWS EC2 instance startup time by 40%** by implementing persistent storage of preloaded acoustic and language models, boosting system throughput during high-load periods.

Marvell Semiconductor — Marlborough, MA
SDK Software Manager

Drove SDK Development, XScale adoption, & platform architecture, aligning with OEM, OS, and end-user needs.

- **Ensured team cohesion and delivery consistency by fostering collaboration** across a distributed Symbian OS team in London, Austin & Hudson, MA, supporting programs adopted by Motorola, HTC & Intermec.
- Promoted XScale PXA3xx in Europe and Asia as **Symbian OS Architect, often beside then-CTO Dr. Sutardja,** engaging with strategic OEMs as part of an overall strategy resulting in **sales of millions the PXA3xx units.**

Intel Corporation — Hudson, MA
Staff Software Engineer, Smartphone Audio Architect

Developed XScale device drivers, board support packages, software, and platform architecture.

- **Performed system-level validation and signal analysis at the IC interface level, c**ollaborating with hardware designers on board-level integration and debug.
- **Extended playback from ~3 to ~8 hours and enabled companion chip adoption in millions of devices** by defining a patented audio architecture for Intel's XScale PXA2xx SoCs, used by OEMs like Motorola, HTC, Intermec & Amazon.
- **Resolved a product-blocking I2C issue i**n Motorola hardware, **uncovering a board-level flaw** with mixed-signal scopes and protocol analyzers, enabling an on-time launch and protecting significant revenue.

Education

Andrews University — Berrien Springs, MI, — *Master of Science (MS) Computer & Info Science*
Southern Adventist University — Collegedale, TN — *Bachelor of Arts (BA) Psychology*