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Shawn E. Delahunty

Career Summary

Mr. Delahunty has over 18 years experience in software design and architecture for PCs, high-end workstations, and specialized embedded-platforms. He has developed client-side and server-side applications, operating system components and drivers, and A-to-D feedback / servo-control-loop code for micro-controllers.

Experience

2007-Present Sensor Design Group, LLC., Houston, TX
Senior Software Engineer

2007-2007 L-3 Communications, Inc., Houston, TX
Senior Software Engineer

2006-2007 e-Piphany Technologies, The Woodlands, TX
Senior Software Engineer

2000-2006 Xanté Corporation, Mobile, AL
Lead Software Engineer

1998-2000 Triton Systems, Inc., Long Beach, MS
Engineering Test Manager

1992-1998 United States Air Force
Electronic, Computer & Switching Systems Technician
Munitions Systems Technician

Key Skills

Fluent in numerous languages including C, C++, BASH Shell scripting, Perl, Assembly Language (MIPS-RISC, M6502, M68xxx, PowerPC, Z-80, Microchip PIC & DSPIC), Pascal, Fortran-77, VisualBasic, and QuickBasic. Development of multi-threaded application software and kernel-mode drivers for Linux. Installation and maintenance of complex, heterogeneous hardware and software systems in military and civilian environments. Development of custom hardware, including FPGA schematic design, micro-controller based functional units, custom signal- and power-switching assemblies, cabling and harness assemblies, and electro-mechanical assemblies. Project planning, management, and allocation of personnel and resources.

Education

1998 A.S. in Electronics Systems Technology
Community College of the Air Force
Montgomery, Alabama

1997 A.S. in Munitions Systems Technology
Community College of the Air Force
Montgomery, Alabama

1992-1998 United States Air Force Technical and Management Training
Airman Leadership School (Keesler AFB)
Electronic Computer and Switching Systems (Keesler AFB)
Munitions Systems (Lowry AFB)

1987-1990 Mechanical Engineering Major
Carnegie Mellon University
Pittsburgh, Pennsylvania

Major Projects

Electromagnetic Inspection

Senior Software Engineer

Ongoing development of advanced techniques and systems for electromagnetic inspection (EMI) of pipe. Software developments include a proprietary adaptive digital signal processing algorithm that increases signal to noise ratio and permits automated detection of smaller flaws in the presence of high background noise levels. Responsible for converting algorithm from post-processing mode to real-time production environment and optimizing for speed and performance.

Spacecraft Avionics Systems Real-Time Simulation & Modeling

Senior Software Engineer

Developed extensions and new functionality for modeling and simulation systems supporting NASA's Project Constellation program to create a new generation of spacecraft for human space flight. Customized existing Linux kernel drivers to simplify complex behavioral simulation models. Developed new Linux kernel drivers for IRIS-A/IRIS-B time-base cards, 1553-bus interface cards, and ultra-high-speed Reflected-Memory cards. Wrote multi-threaded client-server application for stress-testing and statistical analysis/validation of ultra-high-speed Reflected-Memory cards. Wrote in-house technical reference documentation covering usage, software integration "best-practices", and maximal hardware limitations. Provided software training and mentoring to junior aerospace engineering staff.

Multi-Processor Embedded PC Architecture

Senior Software Engineer

Extensive modification and customization of Linux kernel to run on a proprietary multi-processor embedded platform fully compatible with existing PC software yet providing unique security, manageability, and expandability features. Developed custom boot-code, kernel-drivers, and modified test applications for embedded platform prototypes. Analyzed work-flow and time-line requirements for meeting intermediate project stages and prototype completion. Developed and demonstrated project summary presentations and status updates to management, technical advisory board, and potential venture-capital investors. Assisted in developing infrastructure requirements and engineering support requirements for project stages, moving from R&D phase towards pre-production ramp-up. Provided mentoring, training, and project direction to junior engineers and interns. Assisted with developing coding, training, and documentation standards for software engineering staff.

Printer Controllers with Embedded Image Manipulation Capabilities

Lead Software Engineer

Implemented custom hardware modifications and developed software for multiple printer-controller boards incorporating embedded image manipulation algorithms. Developed custom hardware drivers for the Linux OS and wrote control servers to coordinate hardware utilization, machine-state control and analysis, and bitmap data-stream handling. Co-wrote EPROM-based BIOS/boot-code for products using IDT-32355 and IBM PowerPC-based embedded controller boards. Developed custom proprietary image-manipulation algorithms, and modified existing

algorithms for compliance with ICC (International Color Consortium) color correction standards. Drafted system architecture and developed application-level code in C and assembly for printer controller-boards based on various embedded CPU's (MIPS-R4300, IDT-32355/32364, IBM-405GP/GPR PPC, IBM-440 series PPC, M5200 PPC). Provided new-product support, training, and diagnostic assistance to production, repair, and customer technical-support staff. Created application notes, in-house training materials, and drafted preliminary user-manuals and tech-manuals for new products.

ATM Engineering-Test Section

Engineering Test Manager

Performed complete departmental spin-up of Engineering Test Section from scratch. Tasks included developing hiring criteria, devising personnel position duties and training requirements, crafting all project-tracking documentation and data-logging procedures, custom-building hardware/software test-fixtures, and managing personnel and systems. Created detailed product test plans for evaluating custom ATM-banking hardware and embedded software, and ensured proper execution, logging and analysis of all hardware/software testing performed. Drafted test proposals, executed test analyses and wrote reports on findings and conclusions for executive review, to assist in Enterprise Resource Planning for upcoming inventory and budgeting requirements. Analyzed in-house and beta-test data for trends and patterns, developed fixes for any process or product shortcomings, and coordinated implementation with Production and QA personnel.

USAF 81st Training Wing – Electronic Systems Maintenance

Electronic, Computer & Switching Systems Technician

Responsible for rotating-shift supervision for a 20-person shop. Tasked with personnel training and daily maintenance of over $70 Million worth of equipment items in support of several USAF Technical Training Squadrons. The equipment ranged from ground radar, AWACS, HF-radio uplink, EMP-hardened telephone and computer switch control assemblies to general-purpose computer systems and networks.

USAF - 4th Air Wing - Precision Guided Munitions

Munitions Systems Technician

Handpicked to perform software and hardware testing, analysis, and evaluation of USAF prototype AN/GJM-65 TV/IR Precision-Guided-Munitions Test Set under all-weather conditions. Re-wrote the technical maintenance manual and operator software manual to reflect version-corrected procedures and to bring the manuals into proper safety compliance.