Jerome C. Parks

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Objective:

I am seeking to architect and implement software for embedded systems.

Experience:

Motorola *Schaumburg, IL*
iDEN Base Radio Controller DSP Group *(1997 – present)*
Senior Engineer

- I assisted with architecting, documenting, implementing, and testing the DSP layout for a cost-reduced, next-generation, six-channel base radio using Freescale's quad-core MSC8122. This included managing team members in documenting the architecture, as well as authoring the messaging interface document between the DSP and the Host. I designed the method used to download our C code, created using Freescale's CodeWarrior, to the MSC8122. I mentored new DSP engineers in our processes, tools, and understanding of algorithms helping them to quickly contribute to the project. I collaborated with engineers in India and Russia to develop algorithms and to integrate their designs into releases. Release procedures, all DSP software releases, and configuration management using Clearcase were my responsibility.
- I architected and implemented a solution in assembly on the DSP56311, which enabled developers to view and change internal memory at run-time. This allowed for real-time coding updates to occur while reducing the need for external test equipment. A customer issue was evaluated in the field at a site using this procedure.
- I helped design a solution to combine the factory test software and the field software into one release. For the single-channel and multi-channel base radios using the DSP56311, I helped design a solution to support both platforms with just one release. These solutions minimized release support and risk by exposing core routines to more labs and teams for testing.
- I developed a solution to bypass additional group delay to control the front-end attenuators and properly allocate and mix channels to support a dual-band platform. The additional group delay, introduced by new hardware RF combining components, made past solutions ineffective. The mixing of channels was necessary to support the dual-band platform that used either high-side or low-side RF injection based on the operating frequency.
- I implemented algorithms to support a new slot type that doubled capacity, increase the inbound timing resolution from a subscriber to reduce co-channel interference, identify broken RF antenna paths, and support a new packet data solution and its corresponding CRC.
- I oversaw the prototype phase for a new set of features. This included setting the schedule and assigning team members to specific tasks as well as documenting all the features and identifying specific goals for each prototype. These prototypes were used to discover and mitigate risk, to quantify performance, and to better estimate code size, complexity, and effort.
- I am experienced in the project development lifecycle, taking a project from requirements and architecture through testing and releasing.

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- I helped author a detailed design document describing the receive modem algorithms and techniques used to implement them. The document explains the theory of the decoding process and describes specific implementation issues.
- I helped design and build Cells on Wheels (COWs) for individual developers and a lab for our group. The COWs enabled engineers to test software at their desk in a realistic environment, while the lab allowed for more controlled and automated testing. I have used oscilloscopes, spectrum analyzers, logic analyzers, arbitrary waveform/signal generators, vector signal analyzers, faders, and other test equipment to assist in implementing, validating, and debugging routines.

Los Alamos National Laboratory *Los Alamos, NM*
Computing, Information, and Communication Group (CIC-5) *(1995 – 1997)*
Undergraduate Student Position

- I maintained and updated HTML intranet group web pages.
- I implemented Perl scripts to support web-based forms.
- I was granted security clearance through the US Department of Energy.

Education:

New Mexico State University *Las Cruces, NM*
College of Electrical and Computer Engineering *(1992-1997)*

- Bachelor of Science, May 1997, in Electrical and Computer Engineering
- Minors in Mathematics, Economics, and German
- Dean's Honor List, Crimson Scholar
- GPA: 3.55

Accomplishments:

- Motorola Bravo! Award (2001 (2), 2002, 2003, 2005, 2006, 2007)
- DSP Review Performance Award (2000 (2))
- Co-authored paper for Simulation and Modeling Engineering Symposium (1999)
- Parks, Jerome, and Diep Nguyen. "Automatic Phone Locking Enhancement (APLE)." Motorola Technical Developments 38 (1999): 133-134.

References:

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Mentor	*Manager*	*Co-Worker*	*Mentee*