Trevor S. Bentley

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Education:

Georgia Institute of Technology, Atlanta, Georgia 08/03 – 05/07

- GPA: 3.61 / 4.0
- Bachelor of Science in Computer Science

Georgia State University, Atlanta, Georgia 08/02 – 05/03

- GPA: 4.0 / 4.0

Experience:

Sherpa Solutions, LLC, Norcross, Georgia 08/07 - Present

Lead Software Engineer

- Developed modified version of U-Boot bootloader and custom Linux kernel modifications for a PowerPC microprocessor on a Compact PCI board. Developed Linux device drivers for both host and target, and a Windows Driver Foundation (WDF) driver for an alternate host running Windows XP.
- Designed, implemented, and integrated high-speed audio multiplexing DSP firmware. Developed efficient assembler routines to meet strict performance requirements.
- Debugged and analyzed timing in hard-scheduled, high-security Green Hills Integrity-178B Separation Kernel RTOS. Code was written to high-security EAL6+ certification standards.
- Ported large existing code base to STi5202 microprocessor running OS21, including bootloader application, middleware application, and assembly bootstrap code.
- Designed and developed Linux kernel device driver and userspace library for a one-way radio device on an ARM9-based EP9307 processor. Wrote graphical debug application in Python with GTK+ bindings.
- Trained two employees on embedded development, and acted as on-site manager of three employees.

Corporate Email Services, Lawrenceville, GA (Owned by Sherpa Solutions, LLC) 05/07 - 03/09

Software Engineer

- Redesigned software infrastructure to increase speed of operation and maintenance. Developed redundant database back-end, and modified existing mail transport agent (qmail) and mail delivery software. Implemented VMware and Xen virtual machine-based deployment.

Georgia Institute of Technology, Atlanta, Georgia 01/07 - 05/07

Ubiquitous Computing Research Group - Research Assistant

- Designed prototype for haptic laser pointer project using ultrasonic range sensors. Studied distance ranging and haptic feedback techniques. Used Phidgets Inc. rapid prototyping modules.

Williams Consulting, Inc., Suwanee, Georgia 08/04 – 12/06

Co-Op Program – Software Engineer

- Developed and maintained C and assembly code for a wide variety of embedded systems running embedded Linux, custom OSs, and without OSs.
- Rewrote and extended real-time prototype software for Maglev train control and drive systems. Implemented Multi-Vehicle Bus (MVB) communication system.
- Maintained legacy software system for a family of MPEG-2 transport stream receivers, and extended product line to include Gigabit Ethernet output for IPTV providers. Wrote custom Linux kernel drivers to communicate with Xilinx FPGAs and an Ethernet controller. Worked directly with the customer and their clients. Extensively used MPEG-2 stream analyzers.
- Reverse-engineered infrared communication protocol.
- Worked with hardware engineers to debug circuit board prototypes.

Skills:

Programming languages, DBMSs, Operating Systems:

C/C++, Java, Visual C# .NET, PHP, Perl, Python, Objective-C, HTML (CSS, XML), MySQL, PostgreSQL, Oracle, Linux (Ubuntu, Red Hat, uClinux), OS X, Microsoft Windows, Green Hills Integrity

Embedded Microcontrollers, Microprocessors, DSPs:

Freescale MPC8548, IBM 8052 clone, Freescale 56F80X, Motorola Coldfire, IBM PowerPC 405EP, Cirrus Logic EP9307, Analog Devices Blackfin, Texas Instruments TMS320, STi5202

Compilers, Libraries, Environments, Software:

gcc, SDCC, Codewarrior, Microsoft Visual Studio .NET, cygwin, ncurses, libpcap, Linux kernel modules, Windo
Driver Foundation (WDF), Windows Driver Model (WDM), Microsoft Office, Apache,
Iptables, CVS, Subversion, Ethereal, Green Hills MULTI

Hardware tools:

Oscilloscopes, logic analyzers, MPEG-2 stream analyzers, soldering irons, JTAG debuggers