Craig W. Nadler

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SUMMARY

The main focus of my work for the past 20+ years has been in Linux, device drivers, and embedded software. Areas that I've worked in recently have been embedded Linux, USB, and microcontroller firmware.

TECHNOLOGIES

Programming Languages / Libraries

C/C++	BASH	QT	libusb-1.0			

Operating Systems

Linux	RTOS	ThreadX	Microcontrollers without an OS		MS-Windows	

Hardware Architectures

ARM	PowerPC	MIPS	X86	68K/Coldfire	ARC	8051

Revision Control Systems / Bug Tracking Systems

SubVersion	CVS	RCS	Git	Perforce	AccuRev	Bugzilla

IO Interfaces / Buses

USB	Ethernet	RS-232	PCI	SPI	GPIO	VME
I2C	ISA	IDE	CAN			

Hardware Analyzers / Debuggers

USB Analyzers	JTAG / ICE	Logic Analyzers

EXPERIENCE

Nadler Consulting Services, Inc. Nashua, NH 2011 – Present
Embedded Software Consultant

- Developed an embedded Linux image for the Beaglebone Black board using Buildroot. Setup a development VM for cross compiling and debugging applications on the embedded target.
- Provided Consulting Support for Linux USB Peripheral/Gadget Printer Driver that I wrote and contributed to the Linux kernel.
- Developed firmware for a TI Tiva / ARM Cortex M4 based microcontroller board. The Tiva board acted as a USB front end to RFID readers attached through CAN bus.
- Developed firmware for 3D Printers with SMX RTOS, ARM, RFID, CAN, I2C, USB, WIFI, and LCD.
- Assisted with porting a USB High Speed Host Controller Driver from MicroC/OS to Linux.
- Developed ARM Cortex microcontroller firmware for USB example code using Keil compiler.
- Developed microcontroller firmware and Linux software for a radar system.
- Developed Linux GUI applications with QT, C++, and libusb-1.0 to interface with microcontrollers.
- Wrote firmware for the Silicon Labs C8051F340 microcontroller using the SDCC compiler.
- Wrote firmware for the TI Stellaris LM3S9D90 microcontroller using Code Composer Studio.
- Implemented support for USB, SPI, GPIO, and A2D / Analog to Digital in firmware.
- Wrote firmware for the Cypress FX2 USB peripheral controller to implement a High Bandwidth Isochronous endpoint. This was used to transfer real-time raw data from the radar.

DRS, Inc. Merrimack, NH 2008 - 2011
Principal Software Engineer

- Developed Linux Kernel Drivers for Ethernet, VME, and FPGAs.
- Designed Linux Build Systems for Embedded Systems.
- Developed User Space Applications and Libraries to control access to hardware.

Nadler Consulting Services, Inc. Nashua, NH 2006 – 2008
Clients:

- 3M Touch Systems Methuen, MA Duration: 4 months
  - Developed an automated test system using the National Instruments LabWindows/CVI tools to test USB touch screen controllers.
- Exbiblio, Inc. Seattle, WA Duration: 10 hours
  - Evaluated a problem with their USB Host Controller and found a solution.
- RSA, Inc., The Security Division of EMC, Bedford, MA Duration: 10 hours
  - Evaluated a USB problem in a robotic testing system for USB devices and found a solution.
- Motorola, Inc. Boxborough,MA Duration: 6 months
  - Developed an updated build system for a video-on-demand server based on Wind River Linux.
- DegreeC / Degree Controls, Inc. Milford, NH Duration: 20 hours
  - Evaluated a 36-port USB hub, USB sensors, and host software. Found a problem with the transaction translators in the hub and wrote a detailed test report with recommendations on how to proceed.
- L&L Engineering Inc. Lee, NH Duration: 34.5 hours
  - Modified the firmware on a PIC to appear as a Communications Class device on USB.
- @Road Inc. Fremont, CA Duration: 102.5 hours
  - Debugged problems with a USB OHCI controller on a prototype GPS receiver board.
- Sigmatel Inc. Waltham, MA Duration: 12 months
  - Designed and implemented: a stack to operate the USB host ports on a printer controller, a USB host stack, a low level USB host controller driver, and a hub class driver.
- Linux Contribution Projects
  - Added support for USB Interface Association Descriptors to the Linux kernel.
  - Added a USB Peripheral Class driver for the printer class to the Linux kernel.
  - Developed a patch to add support for the USB Hi-Speed Host Electrical Tests in Linux.

TransDimension Inc. / ARC International Inc. Nashua, NH 2004 - 2005

- Developed software for USB host, peripheral, and OTG controllers.
- Worked with the Linux EHCI maintainer on code changes in the Linux kernel.
- Submitted code changes that were merged into the Linux kernel.

Motorola Inc. / WaveMark Technologies Inc., Burlington, MA 1997 - 2003

- Developed firmware for embedded printer controllers based on both RTOS and Linux.
- Developed several USB and IEEE-1284 peripheral controller drivers and verification firmware.
- Handled PC and network administration for an office of 20 people.

AutoLogic Information International Inc., Burlington, MA 1996 - 1997

- Developed software for the newspaper pre-press industry in C/C++ on Solaris, SunOS, and Linux.

C-Grams Inc. , Kingston, NH 1995 - 1996

- Developed monitor and control systems for satellite ground stations in C on Unix.

EDUCATION

- SUNY Institute of Technology at Utica/Rome Utica, NY 1993 - 1994
  Bachelor of Science, Computer Information Systems Dec. 1994
- Hudson Valley Community College Troy, NY 1991 - 1993
  A.A.S., Computer Information Systems May 1993