

Software Developer Software Developer Software Developer New Castle, DE Favorite Languages: C, C#, Java, C++, any architecture's assembly language Favorite Source Control Application: SVN Favorite Area: fast, reliable behind-the-scenes system code Authorized to work in the US for any employer Work Experience Software Developer - my own project - December 2009 to December 2010 Object-oriented framework (unfinished, [http://subversion.assembla.com/svn/matthews\\_cpp\\_framework](http://subversion.assembla.com/svn/matthews_cpp_framework)) Was writing a set of reusable classes for developing applications in C++ using the Win32 API. Was using GNU `make' for builds. Was using SVN for source control. Software Developer Eneractive - Pottstown, PA December 2008 to September 2009 Web pages to display electrical data Hand-coded HTML, CSS, and JavaScript to provide long-term graphs, numerical summaries, and dumps of data stored in databases. Wrote using Windows/IIS/SQL Server/ASP.NET (using C#) then ported to Linux/Apache/MySQL/PHP. Wrote Java applet to display high-speed live graphs through low-bandwidth socket connections. Used LiveConnect for similar text updates. Used AJAX briefly to reload some text of page. Ensured compatibility with different web browsers, with and without JavaScript enabled. Used XML to store configuration and to communicate between service and applet. System service to report and log electrical data Wrote multi-threaded, object-oriented Windows service in C# to gather readings from Modbus electrical meters, make the readings available to TCP/IP clients (Java applets mentioned previously), and log the readings to an MS SQL Server database (2005 and 2008). Stored configuration in XML. GUI to configure system service Took over writing GUI in Visual Studio to edit XML configuration of service mentioned previously. Ported from VB.NET to C# to make code easier to maintain. Used XSLT for automated upgrade of configuration files. Software Developer IONX - West Chester, PA October 2007 to October 2008 Low-power embedded firmware for a remote sensor device Wrote (primarily in C with some assembly) cooperative multitasking thread scheduler; interrupt-driven UART, ADC, I2C, and SPI device drivers; diagnostic menu; and packet-based command interface for a low-power, memory-constrained microcontroller (TI MSP430). Briefly used oscilloscope to debug SPI bus transactions. Used SourceSafe for source control. Test and diagnostic tools Wrote command line tools in VB.NET and C and a GUI in C# to

run pattern tests against and to display raw data generated by firmware mentioned previously. Used Visual Studio to create GUI. Used SourceSafe for source control. Software Developer Unisys - Malvern, PA June 2001 to July 2006 Storage and serial port device drivers Wrote interrupt-driven DMA CompactFlash device driver (IDE hardware interface) in C. Ported serial port device driver written in C from a different microcontroller in the family. Environment was an embedded operating system (TI DSP/BIOS) running on a TI C6204 (although no signal processing was involved.) Used SourceSafe for source control. Boot loaders and firmware update (TI DSP, ARM9) Wrote reset code in assembly and flash chip device drivers and command-line utilities in C for loading firmware to AMD and Intel NOR flash chips. Took over web pages and implemented MIME parsing in C to accept web-based firmware updates. Wrote interrupt-driven 16550 UART serial port device driver and serial diagnostic firmware update menu in C. Ported X/Y- and Zmodem serial protocols (from C open source code) for streaming upload of image files. Used GNU `make' to build second of two boot loaders in a Linux development environment. Used SourceSafe and CVS for source control. uClinux kernel patches (not published) Modified CPU cache handling written in assembly and executable loading and flash chip device driver written in C for an embedded (uClinux 2.4) code base. Used CVS for source control. BIOS extension (PCI option ROM) Wrote BIOS extension for a USB PCI host controller (INT 13 and 19 for USB floppy/CD-ROM and INT 16 for USB keyboard) in x86 assembly for use in a custom PC-based server platform. Used SourceSafe for source control. Service utility code Wrote wrapper in C++ to allow a service to programmatically control a command-line tool and wrote a test GUI in VB 6.0 to invoke WMI methods exposed by the service. Used SourceSafe for source control. Systems Administrator (part-time) University of Delaware - Newark, DE May 1998 to May 2001 IP multicast client and server Wrote command-line client and server in C for high-speed transfer of an archive file to 30 networked PCs at once (motivated by the desire to decrease the time it took to perform new software installs). PC status monitor Wrote GUI client in Java and server in C to monitor transient glitches in networked PCs from a central location. Education Bachelor's in Computer Science University of Delaware - Newark, DE September 1996 to May 2001 Additional Information GPA 3.57/4.00

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