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Resume

- Summary:** Strong software engineering experience in **WEB AND WINDOWS DEVELOPMENT** environments. Language experience includes **C, C#, C++** as well as **ARM, x86, 8051, and other various assemblers in embedded environments**. Experience with **ASP.NET, WPF, WCF, Silverlight** and **SQL Server 2005/2008, TSQL, Javascript, CSS, XML and XML Schema, web services (server and client side), Windows Vista device discovery, WS-* specifications. Consumer Television (HDTV, OCAP) and set-top box** knowledge. **Avionics** including **1553** and **ARINC** experience. **Linux, VxWorks and other RTOS** (ThreadX, MicroC OS/II, VRTX, MT, more. TI TMS320 **DSP, network** and **wireless** experience. **Very strong skills with customers**. Experience leading software engineering group in **India** remotely. **Agile software development and management** experience. Strong experience with interfaces including merchant credit card processing on both sides (as merchant and as processor).
- 12/09 – now **Software Developer/Manager** (BNSF Railway). Lead team of software engineers developing **C# ASP.NET** sites and **.NET Applications and Services** used for management of train operations and safety, including Positive Train Control. **TSQL/SQL Server 2008, Silverlight, AJAX, WCF, WPF**, multithreaded and socket based communications.
- 12/08 – 11/09 **Software Engineer** (Jenkon Corp through InfogroupNW). Extensive use of **C# (.NET 3.5), ASP.NET, SQL Server 2005/2008, TSQL, Linq, AJAX, and Javascript**. **Silverlight** experience.. Developed **SOAP** web service interfaces to **CCH tax service** and **Federal Express** as well as merchant credit card processing interfaces for **PayPal PayflowPro, ProPay** and **eCard**. Strong in both database and user interface web development.
- 9/06 – 10/08 **Software Engineer** (Sharp Laboratories through InfogroupNW). Hired as second engineer on an agile team that grew to 4 people developing web services on Sharp multifunction printers. Helped implement core **XML parser, Windows Vista WSD Print and WSD Scan services**, all in **C** under **VxWorks** and **Linux**. Also wrote **C# WCF/WPF** based Windows application to simulate Vista interaction with the services. Other tools and interfaces used included **XML, XML Schema, SOAP 1.2, HTTP, XOP/MTOM, .NET 3.0 and 3.5, WPF, WSDAPI, COM** under **.NET, WS-*** including **WS-Discovery over UDP** and **HTTP, WS-Addressing, WS-Eventing**, etc. Printer work was **real-time, multi-threaded firmware**. Project ends 9/30/08.
- 8/05 – 8/06 **Lead Software Engineer** (Stexar Corporation) Led 4 person team (part of 20 person software group) in developing single chip HD television semiconductor product firmware using **C** and **Linux** on a Redstone processor that included both **X86** and **DSP** instructions. **Complex product, real-time, multi-threaded firmware**. Led architecture through implementation. Company ran out of funding, all staff laid off at once.
- 7/03 – 8/06 (Full-time ended in 7/05, continued part-time) **Software Engineer** (Catapult Internet Partners, Inc.) Online registration service for classes, summer camps, etc. on a per transaction basis. Also developed custom E-commerce sites. The environment is **ASP.NET in C#, SQL Server, Javascript and CSS**.
- 3/03 – 4/03 **Software Engineer** (FLIR Systems direct contract) Designed and wrote **CAN** (Controller Area Network) driver in **C++** for **TI TMS320F2812 DSP** under **MicroC OS/II**

RTOS. Crash, high pressure project, delivered successfully allowing customer to ship on schedule. Worked 95+ hours per week during this period (40 hours for Intel, remainder for FLIR).

Concurrently with:

- 11/02 – 6/03 **Software Engineer** (Intel through H.L.Yoh) Enhancements to Intel server management firmware, ARM processor in C under ThreadX RTOS. Worked on IPMI, I2C, flash driver, power control, fan control, LAN access (TCP/IP), and sensor data acquisition and control. Implemented web service for device configuration.
- 8/01 – 8/02 **Lead Software Engineer** (Applied Materials Corp.) Hired to lead group of four software engineers building software embedded in semiconductor mask mfg machine. Most recent hands-on development work was in core messaging software that crossed all three platforms: VxWorks (C++), Visual C++ under NT/2000 and Unix (Solaris, C). Shipped 1 major and 3 minor releases successfully and on schedule.
- 1/00 – 5/01 **Software Engineering Manager** (Intel Corp.) Leader of group developing **Linux** based handheld wireless PDA for mobile executives and other markets. Responsible for requirements and architecture definition. Promoted to lead both PDA and server software engineering groups, 1/01. Changed direction to Windows CE OS, managed port of Win CE to new hardware platform. Great group, great boss, great project...but funding for group was eliminated.
- First hired as contractor to Intel to lead development of new 64-bit system tools. Was asked to join Intel full time as Software Manager, 9/00.
- 7/96 – 1/00 **Project Manager/Architect** (FLIR Systems Corp.) Started as contract software engineer working in C and x86 assembler under VRTX OS on airborne infrared cameras. Lots of interface work including 1553, various ARINC standards, NEMA, etc. Hired full time 12/96. Promoted to **technical lead** for product team 4/97. **Extensive experience with customers** in solution definition and troubleshooting situations. In 9/97, was asked to remotely **lead 10 person team** in India developing real time camera system simulator in **Win32/MFC** on PC. **Architect for simulator** software and was hands-on lead through entire project. System was delivered on time, 9/98. Meanwhile, was promoted to **project manager** 6/98 to manage 12 person multi-disciplinary team (electrical, mechanical, software, pubs, QA) developing next generation common controller electronics for all company airborne cameras using VxWorks, while continuing to manage **India** group developing test and diagnostic software in Win32. **Responsible for overall marketing and engineering requirements for this product, as well as product architecture.** Product shipped to first customer in 1/00.
- 12/95 – 4/96 **Lead Software Engineer** (Intel Corporation through CDI). **Recruited 11 person team** to rapidly develop system management software to be shipped with Intel motherboards in the corporate marketplace. Led team from inception to successful first integration of software.
- 8/95 – 12/95 **Software Engineer** (Client confidential, contract). **Modify existing credit card terminal software on emergency, crash basis.** Initial project was estimated as requiring several engineers for 3 months, I did the work alone in 6 weeks. Software was installed successfully in over 100 locations nationwide. Used C and Unix-like multi-tasking kernel on 8086 hardware.
- 12/93 – 8/95 **Software Engineer** (Intel Corporation). **Designed and developed setup and diagnostic software** for several new Intel network adapters, including new 100 Mbps PCI adapters. Responsible for significant user interface improvements. Received several awards for customer orientation and for innovative improvements to software.

Intel member of DMTF LAN Adapter Working Group. Work performed in C and 80x86 assembler on ISA, EISA and PCI bus systems.

3/90-11/93 **Founder/Manager/Software Engineer** (J. L. McKay Corporation). **Designed and developed firmware for credit card terminal using real-time multi-tasking kernel, C, and 80x86 and 8051 assembler.** Designed and developed PC based software (C++/Windows) used to supervise and receive transactions from this terminal via telephone lines and transmit to banks, American Express, Discover, etc. using a group of redundant PCs operating 24 hrs/7 days for a base of nearly 4000 terminals using 3780, X.25 and proprietary protocols.

J. L. McKay was sold to First USA (a credit card processing bank) in 1995, and is now known as First USA Technologies.

1/88-12/89 **Founder/Software Engineer** (J.D. McKay Corp). **Designed and developed PC software** (C/MOS-DOS/Assembler) used in cable television for video/audio switching.

7/85-12/87 **Software Designer/Developer/Evangelist** (Guestserve Systems). **Product designer, developer and marketing evangelist** for hotel pay-per-view television system including **head-end** and **set-top box**. Designed and programmed the software to run this network (IBM PC in C and 80x86 Assembler) and interface it to hotel billing computers. Designed and built real-time multi-tasking billing/supervision software that polled and downloaded schedule information into each hotel system. After the initial software was built, I spent over 50% of my time traveling to demonstrate the system to customers, and was an important part of the sales and marketing effort.

9/84-6/85 **Software Engineer** (Cablebus) Designed and programmed real time television control software that manages a network of over 1000 devices via coaxial cable (C/MS-DOS/80x86 Assembler).

9/83-8/84 **Software Engineer** (TJ Controls). Designed and programmed firmware for micro-processor based facility management controller (C/6803 Assembler). Designed and implemented an error correcting telecommunications protocol.

1/78-6/83 **Founder/Manager/Software Engineer** (Solution Systems). Began as contract software engineer. Grew the business into a full service turnkey software and hardware vendor with a staff of fifteen sales, service and software engineering professionals. Software was developed for a wide variety of business applications including restaurant back office, mortgage banking, contracting, professional services time and billing, many more.

1976-77 **Programmer/Analyst** (Fred Meyer and Tektronix). First programming jobs, IBM 370 COBOL and Assembler.

1974-75 **Computer Operator/Programmer** (U. S. Air Force) Burroughs 3500. Honorable discharge.

1972-74 **Aircraft Mechanic** (U. S. Air Force).

Education: California State Polytechnic, (Pomona, California), C.S. program.

Other Skills: 2000+ hour commercial instrument pilot. Sailor. Dog trainer.