Stephen H. McIntyre
72 Ramblewood Drive
Glenmoore, PA 19343
610-942-3929 (H)
610-322-5632 (C)
e-mail: stephen.mcintyre@inversityinc.com
web: www.inversityinc.com
web: www.shmcinty.freeshell.org

Experience

Inversity, Inc. **7/2014-present**

ENGINEER / SYSTEMS / SOFTWARE Specialist professional with BSEE

- Experienced Software Engineer working with companies Ametek, Honeywell, Airbus, Boeing. Digital Receiver Technologies (DRT), GE Aviation, Comcast MachineQ and Consulting agencies Superior Technical Group, Pyramid and Aerotek
- Embedded Linux, OpenWRT, Yocto Project NXP T1040/T1042, Linux Kernel Development, C/C++ Device Drivers, Full Stack Sierra Wireless / Qualcomm Gobi Cellular Wireless driver, Laird Wifi controller, Domain Guard, Onboard Network System, NFS, Cross-Platform development, U-Boot, Boot Loader, Secure Boot, SVN, git, jira, confluence, DOORS, Jenkins
- Web Services RESTful, SOAP, XML, JSON, Shell Scripting, Bash, Perl, Python, Web Design, WordPress, CSS, PHP, HTML, System Security
- HL Application and LL Driver developer with Strong Software Language skills in C/C++, VB, C#, working with many compilers and linkers, cl, link, gcc, ld, lcc, cosmic, introl, make, nmake, makefiles. Multiple processor architecture and Computer Hardware. Experienced with build process and tools and tool chains, binary file examination and many file formats. Debuggers WinDbg, GDB, Visual Studio, NXP CodeWarrior.
- Linux kernel platforms CentOS, RHEL, Fedora, debian based Ubuntu, NetBSD, FreeBSD, VirtualBox, VMWare
- ARINC 615A 429 717, RS232, RS422, multicast multidrop communications, WWU, FMS, AID, AWLU, PME, IP networks and configuration, internet gateways.
- Scrum, Agile, Full Life Cycle development process, devops, version control systems
- Perform software verification activities for Flight Management System (FMS) High Level Requirements (HLRs) including development of Test Cases and Test Procedures, executing Test Procedures, and performing Technical Data Reviews of Test Cases and Test Procedures
- Provide software and engineering services and research, Mobile development iPhone/Android, Web development.
- DO-178B DAL-A-E aircraft processes and documentation
- Implement/design the boot loader for software upgrades through CAN bus multicast protocol and developed low level drivers for ST912 ARM 9 processor. The ARM project was interworking 16 bit Thumb and 32 bit Arm code.
- Use of Matlab/Simulink for algorithm development and data analysis. Excellent Math analysis skills

Superior Group International **7/2011-7/2014**

SOFTWARE ENGINEER on site at Ametek

- Developed tools in C/C++ and C#. The Embedded ARM 9 code was ported to x86 and cross compiled in Visual C 6.0 for debugging on Windows XP. This was a custom simulator implementation.
- Control System analysis and simulations using Matlab / Simulink software. Analysis and Design of control system architecture. Implemented PID design along with filters and compensators to tune controller for optimal performance.
- Provide Electronic hardware analysis Airbus specs and DO 160 DO254 standards Power Quality testing verification and validation
- Liaison between Ametek, Honeywell, Airbus, Bangalore India

Innovative Solutions and Support, Exton, PA **5/2006-5/2011**

SENIOR SOFTWARE ENGINEER

- Design and code software for DO-178B Level A aircraft instruments and glass cockpit displays.
- Develop embedded hardware drivers and register level software written in C/C++ and Assembly Languages. Expert developer of flight management software (FMS) and flight simulation. Expert at cross platform development and porting software.
- Primarily Freescale processors, HC12DP256 16 bit coding using the Cosmic Compiler, PowerQUICC 32 bit MPC82xx, MPC83xx coding using CodeWarrior IDE. Experienced with Embedded Linux and Freescale LTIB, DAS U-boot, GCC and Cygwin environments. The Flat Panel Displays were coded using the OpenGL graphics library.

- Developed device drivers for ARINC interfaces, Analog to Digital and Digital to Analog converters, IIC interface, SPI bus, PCI bus, Hard Disk Drive / Compact Flash Card interface through SiImage PCI/ATA device. Flash Memory storage file system.
- Developed tools using Visual Studio versions through VS2010 for many applications. Expert knowledge of the entire development process and life cycle. Expert in software version control and management using DOORS and VCM. Use of Matlab/Simulink for algorithm development and data analysis,

MEI, Division of Mars Inc., West Chester, PA **8/2000-5/2006**
SOFTWARE ENGINEER

- Provide software modifications to the series 2000 bill acceptor including new flash routines and boot loader. Implement software to add $50 and $100 note acceptance into the acceptor. This required increasing the RAM and FLASH memory size and a paged memory map to extend the physical address space. I also designed and implemented additional firmware upgrade capability into the product through the MEI EBDS serial protocol. Worked with Neural Network, discrimination and validation tools.
- Developed and implemented PC tools and applications for MS Windows based operating systems. I have skills in debugging both user mode and kernel mode drivers and applications using either Visual C++ or Windbg. I implemented Multi-platform testing on single PC using VMware workstation.
- I developed design documentation and provided customer facing documents as necessary. I traveled to customer sites as technical representative. I developed relationships, solved problems, managed time, provided support, and effectively communicated to upper management to keep them informed of my progress.
- In all my projects I worked within the company development process and strictly adhered to company policies and standards. I provided the design proving plans and was fully responsible for the project schedule
- I received training in Object Oriented Analysis and Design, and UML. Use of Matlab/Simulink for algorithm development and data analysis.

L3 Communications / SPD Electrical Systems, Philadelphia, PA **10/96-8/00**
SENIOR ENGINEER

- SPD provides switchgear, circuit breaker and power monitoring equipment to Westinghouse/MAO, SEPTA and other power system OEM's and utility providers. I worked in the NPD group that developed electronics modules for the power, voltage, current sensing and control systems.
- I designed a custom automated test system for testing Electronic Over-Current assemblies. I worked on this project from the initial concept and proposal phase through to the completion and delivery of the test system. I designed the custom hardware myself while managing the assembly operations that were completed at TJM, a contract manufacturing firm. I selected and specified the COTS hardware devices for the system and also evaluated and specified National Instruments LAB/Windows CVI and LabView with the Test Executive as the primary software development tools to be used on the system. I also developed and coded all the software which included code for serial communication interfaces.
- I designed a custom automated functional tester for testing solid state relay panels. I designed the hardware, supervised the assembly and wrote all the software in Microsoft Visual Basic.
- I received training in Visual Basic Programming, LabWindows/CVI, LabView and Test Sequencer.

CHI Institute / RETS campus, Broomall, PA **2/93 - 10/96**
ELECTRONICS INSTRUCTOR

- I prepared lesson plans and material for daily lecture period. I taught technical math and electronics theory to students enrolled in the Electronic Engineering Technology course. I also supervised the two hour lab period each day. I worked here while attending Delaware County Community College earning credits in Engineering.

Loral Defense Systems, Horsham PA / DX Imaging, Lionville PA / GE Aerospace, Bridgeport NJ **5/89-2/93**
CONTRACT MANUFACTURING ENGINEER

- Responsible for tooling, hand assembly, and automatic and semi-automatic assembly processes for defense electronics manufacturing.

Unisys, Downingtown, PA **8/87-5/89**
MANUFACTURING ENGINEER

- Responsible for developing assembly processes for electronics manufacturer. Involved hand and automatic assembly.
- I received training in SPC, PROCOM Management course, Howard Manko Soldering and Solderability courses.

LMC corp. / Exxon Office Systems / Qyx, Lionville, PA **12/79-8/87**

- I programmed and supervised the automatic assembly equipment area. I programmed and wrote the processes for the Universal Equipment DIP and Axial lead component inserters. I gained knowledge of the entire electronics manufacturing process.

Education

University of Phoenix- Philadelphia, PA Courses toward MBA/TM Degree. 12/01 - **12/03**
I have received over 30 credits to date.

Villanova University - Villanova, PA Bachelor of Electrical Engineering degree **12/01**

Delaware County Community College - Media, PA Associate in Science degree **6/96**

- Member of PHI THETA KAPPA honor society.

RETS - Broomall, PA Electronic Engineering Technology Diploma **12/82**