

Philip A. Covington

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Software: C, C++, C#, ASP.NET, ADO.NET, VB, Java, Python, MS SQL Server, MySQL, Windows 2000/XP, MAC OS 9, 10, Linux, AutoCAD, ORCAD, PADS, Xilinx ISE, Altera Quartus

Experience:

2001 to Present

vHMI Automation, Inc., Piqua, Ohio Consulting – Hardware and Software Technology

- Develop software for Supervisory Data Acquisition and Control (SCADA) and Historical Trending applications for Windows 2000/XP and Windows CE workstations.
- Automated PC Based Test System design and development for manufacturing and laboratory applications
- Design and Prototyping of various microprocessor based data acquisition systems and instrumentation.
- Developed driver software (serial and Ethernet) for interfacing to various Programmable Logic Controllers (PLC) such as AB, ABB, and GE.
- Configuration of in plant automation networks.
- Software Consulting with Honda, Panasonic, F&P Manufacturing, Chrysler, General Electric, York Electric, and Weyerhaeuser on various automation hardware projects.
- Developed a Historical Trending SCADA application to log manufacturing data to a MS SQL Server database for front office analysis.
- Hardware Consulting on industrially hardened PCs and monitors as well as various sensor devices
- Developed an open source C# and VB language Human Machine Interface application with Python scripting extensibility modules used in various manufacturing and data acquisition applications
- Software consulting on software projects using the C, C++, C#, Python and Java languages.
- Developed Web based SCADA/Data Analysis applications using ASP.NET with an interface to SQL Server using ADO.NET

2001 to 2002

The SMS Group, Sidney, Ohio Lead Analyst

- Developed software applications for the Automated Data Collection Services (ADC) group.
- Produced Windows -based, custom solutions with Access databases, MS SQL Server and Visual Basic / Visual C++ for GUI interface design.
- Developed interface software for inventory/asset tracking applications using bar code scanner and RFID technology.
- Developed Pack Verification Program applications for warehouse shipping control.
- Worked with customers on the integration of automated data collection software and devices into their Manufacturing Execution databases and software.
- Responsible for installation of bar code scanner, RFID, barcode label printing, and other data acquisition devices in the customer's plant.
- Specified, designed, and installed Wireless networking equipment and configured PC systems at the customer's location.
- Interfaced ADC software applications to existing databases on a customer's UNIX mainframe based system via Sockets interface.

1995 to 2001

Zed Industries, Inc., Vandalia, Ohio Controls Engineer

- Developed custom HMI/SCADA software using VB 6.0 and Visual C++ that included remote (DCOM) and self-diagnostic modules to significantly reduce machine downtime and maintenance support. The software was completely configurable through an MS SQL Server database. As a result of this modern HMI/SCADA software, machine sales quadrupled from 1995 to 1997. Developed ActiveX controls for in house use with HMI software.
- Design and Prototype electromechanical control devices.
- Developed custom drivers to communicate serially or through TCP/IP over Ethernet to special devices. Simplified access to these drivers through ActiveX controls or DLLs.
- Developed control system software for the packaging machines manufactured by Zed Industries.
- Developed microprocessor based custom control system hardware for packaging machine systems.

1998 to 1999

Automation Technology, Inc., Dayton, Ohio
Consulting Engineer

- Developed microprocessor based test equipment for the automated electric motor test systems.
- Developed MS SQL database interfaces for logging test data from the electrical certification tests performed by the automated motor test system.
- Developed embedded C and assembly language software for the Microchip PIC and 8051 microcontroller based controlled electrical test system.

1993 to 1995

Technitron Labs, Inc., Troy, Ohio
Principle Engineer

- Designed embedded microprocessor firmware and data acquisition software for the process control industry.
- Designed and prototyped the Digital Consistency Meter line of products. These were microprocessor controlled instruments used to measure the consistency of paper pulp fiber in the approach flow system of a paper machine. Rugged design and reliability were important because of the severe operating environment in which these instruments are used.
- Designed and prototyped the Suspended Solids Monitor line of products. These were microprocessor controlled instruments used to measure suspended solids primarily in potable water and wastewater applications.
- Designed, prototyped, and assembled the electromechanical sensor heads for the above instrumentation including performing the CNC machining. As a result I got certified in both CNC vertical milling and CNC Lathe operation.
- Developed interface software to log historical tending data to various companies SCADA system databases.

1988 to 1993

Piqua Engineering, Inc., Armament Systems Division, Piqua, Ohio
Chief Engineer

- Designed IEEE-488, VXIbus, and embedded microprocessor based automated test equipment for testing various DOD armament systems – Missile Safety and Arming Devices – Underwater Mine Weapons Triggers .
- Developed DOS and Windows based software with Visual Basic for DOS and C/Visual Basic for Windows respectively, for data acquisition, electronic test, and real-time control devices.
- Designed and built test equipment per DOD contract requirements.
- Developed test system hardware and software under contract for the US Government Naval Surface Weapons Center (NSWS) and Naval Underwater Mine Warfare laboratories.
- Developed embedded C and assembly code for microprocessor controlled electrical test systems developed for testing missile safety and arming devices

- Oversaw installation and startup of a test system developed by the University of Dayton Research Institute for the testing and certification of components for the Patriot Missile Defense System.
- Performed environmental Shock and Vibration testing per contract requirements.
- Supervised daily operation of the certification and calibration laboratory.
- Supervised the Electrical Engineering laboratory and technical personnel.

1983 to 1988

Piqua Engineering, Inc., Armament Systems Division, Piqua, Ohio
Electro-mechanical Technician

- Soldering and Assembly of various electronic devices, torpedo wiring harnesses and electromechanical systems
- Assisted in development and prototyping of various electronic and electro-mechanical test systems
- Performed electronic troubleshooting and repair in the Engineering Laboratory
- Was responsible for electrical and mechanical calibration of test equipment used in production
- Electrical and Mechanical testing of products per DOD contract requirements
- Environmental testing including Shock, Vibration, Humidity, and Temperature Cycling
- Prototype machining in the engineering machine shop

Education:

University Of Dayton
Electrical Engineering

Edison State College
Engineering

References:

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