TWYMAN PLUMB

835 W. Lamar Blvd. #320
Arlington, Tx. 76011
817.819.8481 (Cell/Voice mail)
Email: twyman53@hotmail.com

SUMMARY OF QUALIFICATIONS:

- 20++ years experience as a Test Engineer specializing in using National Instruments LabVIEW, LabWindows/CVI and TestStand to develop Automated Test Systems.
- Years of Architectural and Development experience, LabVIEW – over 20 years; TestStand – 10 years; LabWindows/CVI – 2.5 years
- Extensive experience using Microsoft Office including Word, Excel, PowerPoint, Project and Visio
- Experienced writing Software Architecture Documentation, Software Engineering Documentation, Software Requirements Specification, Software Test Description, Software Test and Traceability Document.
- User of DOORS, ClearCase, ClearQuest, TortoiceSVN, GIT, TorticeGIT
- Exposure to Visual Basic, Visual C/C++, Python, Matlab, PID Control, SONET, ORACLE Database, Citadel Database, EPICS Server
- DoD Secret Clearance: Active Secret

EDUCATION:

- Graduated 10/85 -- DeVRY Inst. of Technology (now DeVRY University) with BSEET.

EXPERIANCE:

12/2018 to 02/21 – Northrup Grumman (Contract)

I am responsible for the upgrade of several F35 Command Navigation and Interrogation (CNI) test sets. Using TestStand with LabVIEW, I maintained and modified test programs that performs board functional tests for the Multi-Channel Receiver (MCR) Subassemblies of MCR RF1, MCR RF2, MCR Synthesizer, and MCR Digital CCAs, along with the Dual Channel Transceiver (DCTR) Tuner and DCTR Digital CCAs. Station Calibration and ITA Module Calibration Program sets were also maintained. While most Test Programs were written in LabVIEW and executed using TestStand, there were several standalone engineering Test Programs with both manual and automated control and tests used for troubleshooting of the various CCAs. These standalone LabVIEW programs used Object Oriented programming for the User Interface along with Commands and Control.

Additionally, I maintained the LabWindows/CVI code for the Low Band Power Amplifier (LBPA) Acceptance Test Procedure (ATP) which is run on the LMSTAR, while using the LMSTORM for Simulation. I specifically worked on the Safe To Turn ON (STTO) and PowerUp sections of the ATP.

06/2018 to 11/18 – Ultra Herley (Contract)

I was responsible for avionic manufacturing test set maintenance and upgrading.

07/2015 to 06/2018 – ARM Holdings.
I was responsible for the development of LabVIEW 2014 based automated tests on a new Bluetooth chip. These tests included the FCC and ECC Out of Band (OOB) RF tests, 99% Occupied Bandwidth (OBW), Phased Lock Loop Test, Regulator Test, Time Domain Power, Modulation Spectrum.
I am also responsible for the architecture of and implementation of Teststand sequences to automate the highly lengthy process of Voltage Trimming of the new devices.
I architected a Lab Measurement test results database using MS Access.
I also implemented a TorticeSVN Source Code Control for the ARM Lab.

07/2014 to 5/2015– Honeywell Aerospace & Defense. (Contract)
I was responsible for the conversion of several IFOG (Interferometer Fiber Optic Gyroscope) subassembly Test Executives written in LabVIEW 8.5 into LabVIEW 2013.
IFOG subassemblies consisted of the PumpFLS, Birefringence and T-DOT. PumpFLS Tests included pump power vs. current test, pump power vs. temperature test, pump wavelength vs. temperature test, FLS power vs. current test, FLS wavelength/Bandwidth vs. current, and FLS wavelength vs. temperature tests. Birefringence tested coil coherence attenuation as a function of delay over a given temperature profile, T-DOT testing consisted of isolating the fiber coil in an environment chamber then subjected the coil to time-varying thermal stress while the gyro rate output is measured.

11/2013 to 07/2014 - LiveTV. (Contract)
As Senior LabVIEW Engineer
I was responsible for the conversion of legacy LabVIEW 8.6 automated test code into LabVIEW 2013. This entails developing and maintaining custom test software built in house which is used to test the LiveTV LRUs (Line Replaceable Units). These include the ASU (Aviation Server Unit), ACU (Antenna Control Unit), CRU (Console Router Unit) and the 1200 and 1400 Power Supplies. I was responsible for defining, documenting, and validating the software required for the test sets, assisting with acceptance testing of the equipment, and deployment the test software into LRU manufacturing environment and repair stations. I was also be required to maintain and upgrade the test software as required in accordance to established configuration management procedures using ClearCase and ClearQuest. I had the responsibility of converting legacy tests written in Python, C, and Basic along with updating the associated Test Description File (Test Program Set).

1/2013 to 7/2013 - Cisco Systems. (Contract)
As Senior Test Engineer
I was responsible for the Integration and Deployment of a Test Set used to test a 16G Fiber Channel unit. This unit is used to transpose Optical Data to and from Electrical Data. Tests included Optical Eye and Electrical Eye Tests, Receiver Sensitivity, Transmit Power, PROM Verification, and System Calibration.
I was also responsible for the conversion of an legacy Microsoft Access program into a LabVIEW 2010 based automated program that replicated the functionality of the Access program. The Access program uses forms to collect data, Visual Basic to manipulate data and an User Interface to display component data for an Optical Amplifier build process.

TWYMAN PLUMB

8/2012 to 11/2012 - Composite Engineering Inc. (Contract)
As Senior LabVIEW Engineer
I was responsible for the continuing maintenance and improvement of the Launch Control Application (LCA) for the BQM-177i Aerial Target System. Responding to SCRs from the Starteam configuration management system, I added features and/or corrected bugs within the LCA program which was written using LabVIEW 2012. The LCA program was used to fully control the target drone while on the launch pad. Controlled subsystems included engine, data uplink and downlink (data to and from the drone), binary discrete (switch positions), servo motors (aileron and tail control surfaces), BIT System (Built In Test), and reading and writing of the DPRAM System (Dual Port Random Access Memory).
I was also accountable for the architecture of the controlling Manufacturing Test Set (MTS) for the BQM-173 Multi-Stage Supersonic Target (MSST) using LabVIEW and TestStand.

5/2012 to 10/2012 - Aerojet (Contract)
As Senior Test Engineer, DoD Secret Clearance
I was responsible for the architecture and development of a LabVIEW based program to edit binary data sets. The program consisted of a User Interface that the operator used to import a binary data set, graph the data into waveform, then edit the waveform and save the edited binary data set. The new binary data set was subsequently used to Validate and Verify the operation of Matlab Test Scripts that analyzed test results of large rocket motors.

12/2011 to 5/2012 - SuVolta (Contract)
As Senior Test Engineer
I was responsible for the architecture and development of a test program using LabVIEW 2010 SP1, along with PXI chassis and instrumentation including PXI-4110 power supplies, PXI-6552 HSDIO, HP Switch Matrix to design verify the functionality of semiconductor SRAMs. I also mentored several people in techniques and principles of LabVIEW.

2/2011 to 12/2011 – Curtis-Wright APSD (Contract)
As Senior Test Engineer
I was accountable for the completion of an unfinished project. The project was to construct the Automated Test Equipment needed to test large AC electric motors for the DOE. This entails reviewing the design of the ATE, making corrections, overseeing the construction, all documentation, all phases of the software including the architecture, development, integration and validation. I used Microsoft Office to create or edit the supporting documentation of Bill of Materials, wirelists, change orders, etc. I used Microsoft Visio to make circuit schematic, cabinet layout diagrams and component layout. National Instruments TestStand is used as the test executive executing test written in LabVIEW 2010. Existing C code written in LabWindows CVI is used to communicate with the motor controller, LabVIEW and TestStand code and the test results database repository.

3/2011 to 4/2011 – Lockheed Martin Space Division (Contract)
As Senior LabVIEW Engineer
I was a member of a team of LabVIEW programmers writing test programs using LabVIEW 2010 SP1 per the Test Plan that tested the Power System of the next generation of the GPS satellite. I rewrote existing instrument functions that used Tektronics oscilloscope drivers to use LeCroy DA1885 drivers.

TWYMAN PLUMB

11/2009 to 2/2011 – Princeton Plasma Physics Lab (Contract)
As Senior LabVIEW Engineer
I was responsible for the architecture and development of the controlling software program for the Heating and Cooling System for the NSTX LLD (National Spherical Torus Experiment Liquid Lithium Diverter) plasma reactor experiment at Princeton University's physic lab. The program is written in National Instruments LabVIEW 2009 using Object Oriented Programming techniques with interfaces to a Citadel 5 database and an EPICS server.

11/2008 to 6/2009 – BAE Systems (Contract)
As Senior Test Engineer - DoD Secret Clearance
I was accountable for the writing and editing of Technical Design Documents (Test Plan) for several subsystems of the missile warning system for the F-22 Raptor. After the Review/Release process of these documents, I wrote the NI TestStand 4.1 test sequences that ran on the test station. I also was responsible for the execution of Fault Insertion testing on several units.

11/2007 to 11/2008 - Lockheed Martin, MS2 Division (Contract)
As Senior Test Engineer
I was responsible for the writing TestStand 4.0 sequences and LabVIEW 8.5 VIs to verify that the Flight Software of a multiple Missile System (NLOS) was operational and adherent to Weapon Specifications. I also wrote a LabVIEW Operator Interface for TestStand which allows an automated and/or scheduled test sequences to be executed at a specific time of day.

5/2007 to 11/2007 – Avtech Corporation (Contract)
As Senior Test Engineer
I was liable for the LabVIEW (8.5) and TestStand (4.0) code to test the Audio Control Panel for various commercial aircraft. The various test modules used the AIM ARINC644 Simulator card (based on the IEEE 802.3 standard) and VXI Instrumentation to test the ACP's audio routing functionality. I also wrote the LabVIEW based Operator Interface for the company's Automated Test System which integrated the NI TestStand Test Engine into the Operator Interface.

3/2007 to 5/2007 - Lockheed Martin, Missiles and Fire Control Division (Contract)
As Senior Test Engineer
I was responsible for the writing of LabVIEW Test Code that used VXI instrumentation and NI Motion Controller to control a laser and a two axis stepper motor system to test an Optical Sensor that optimized lens placement onto the Seeker Head Assembly of the Laser Guided Bomb.

11/2006 to 3/2007 - ITT Industries, Avionics Division (Contract)
As Senior Test Engineer - DoD Secret Clearance
I was responsible for the optimization of the LabVIEW Test Code of the Test Sets used to test Electronic Warfare RF subsystems used in various military aircraft.

6/2006 to 11/2006 – Lockheed Martin, Space Division (Contract)
As Senior Test Engineer
I was responsible for the development of Test Requirements from Weapon Specifications and the subsequent Test Procedures and Test Programs. The Test Programs were written using National Instruments TestStand.

12/2005 to 6/2006 – MOOG Aircraft (Contract)
As Senior Test Engineer
I was responsible for the upgrade and continuing maintenance of several aircraft electrically controlled hydraulic actuator test sets including endurance life test and fatigue loading spectrum. This entails upgrading the existing LabVIEW test program to the latest versions and concepts along with troubleshooting any maintenance issues.

9/2004 to 12/2005 – Infinia Corporation (ex Stirling Technology Company) (Contract) As Senior Test Engineer
I was liable for the development of numerous Data Acquisition test programs using PID and multitasking methods to gather and process data for the testing of Stirling engines.
I was also responsible for the migration of legacy test programs to National Instruments LabVIEW 7.1. This entailed analyzing the legacy programs, recoding the test for maintainability and then producing standalone executables of the legacy tests. The test system consisted of a Windows XP computer with a PCI-6035E controller controlling a SCXI-1000 Chassis that contained a SCXI-1102 (32-Channel Thermocouple) a SCXI-1120 8-Channel Isolation Amplifier and a SCXI-1161 (general-purpose switching). These programs acquired displacement measurements from a Laser, LVDT and a Hall Effect Transducer, along with thermocouple, voltage, current and a bank of digitally controlled AC Switch.
I was also the main contributor in producing the companies Policies and Standard Operating Procedures pertaining to Test Programs.

2/2004 to 9/2004 - ITT Industries, Avionics Division (Contract)
As Senior Test Engineer, Secret Clearance
I was responsible for writing several LabVIEW Utilities used throughout the company. The Utilities that I was responsible for included an In-house Configuration and Release Tool for code control along with several LabVIEW Templates.

9/2003 to 2/2004 - ITT Industries, Space Division (ex Kodak) (Contract)
As Software/System Test Engineer
I was accountable for the Test Set to be used in the integration and test of an electro-optical spacecraft payload. My responsibilities included requirements verification matrix, interface control documents, systems level technical analysis, the verification of requirements, resolution of technical systems level conflicts, implementation of integration and test schedules. I also reviewed and provided input for requirement verification and top-level test plans, evaluated and monitored interface design and control between subsystems, lead the creation of detailed sets of integration and test drawings as well as followed through with the coordination of test activities, test procedures, and test facility assessments. I used the software packages of DOORS, ClearCase and ClearQuest for requirement tracking and bug reporting.

2/2002 to 7/2003 - ITT Industries, Avionics Division (Contract)
As Senior Test Engineer, DoD Secret Clearance
I was responsible for writing Production Tests using LabVIEW to test the AN/ALQ-211 which serves as the overall Electronic Warfare (EW) suite manager for several military aircraft. Using the System Test Requirements and Unit Test Plan, I wrote RF tests that included Wide Band Frequency Response, Gain, Gain Flatness, Group Delay Variation, Power Sweep, 1553 Bus Interface Test, Receiver Noise Floor, Receiver Sensitivity, Receiver Dynamic Range, and Insertion Loss. I was also responsible for writing LabVIEW Production Tests for the next generation Global Positioning System (GPS). Using the System Specifications I wrote the Module Test Requirements and Test Plan and Test Code for the Modulator, Power Amplifier and MOD/IPA Assembly. Tests included Insertion Loss, Input Return Loss, Output Return Loss, Circuit Tuning, Gain and Phase Measurements, Temperature Controller for the Thermal Plate, P1dB, Spurs, Unit Power and Current Consumption and RF Alignment. I was also a member of the team of LabVIEW developers that was responsible for writing Utilities used throughout the company. The Utilities that I was responsible for included a Configuration and Release Tool for code control and several LabVIEW Templates. I also contributed to the development of the In-House Test Executive with Object Oriented code written using LabVIEW.

9/2001 to 2/2002 Woodward Industrial Controls (Contract)
As Test Engineer
I was responsible for the development of a Regression Test System used for Engine Control Software/Firmware Upgrades using LabVIEW, TestStand and LabWindows/CVI. Utilizing the Windows API, I wrote LabWindows C Code the exercised Menu Selections of a Legacy Program that had been written using Microsoft Visual C/C++. Using the C. Code functions I wrote wrappers and utilities and LabVIEW code targeted for use in the Test Executive TestStand.

10/2000 to 8/2001 -- Acterna Corp. (Contract)
As Production Test Engineer
I was responsible for the Automated Production Testing of the T-BERD 310, which is a portable telecommunications test instrument that can test and analyze SONET, ATM, DS3 and DS1 transmission systems. I wrote the Test Specification, Test Procedure and Test Plan. I used National Instruments LabWindows CVI and Test Executive to develop Test Programs in the C Language. I wrote instrument drivers employing the National Instruments IVI Toolset to control the Unit Under Test, Known Good Unit, Digital488 Controlled Optical Switch, JDS HA9 Optical Attenuator, HP 8153a Optical Power Meter and W&G ANT-20. I also integrated into the Test Program the IVI Device Drivers to control the Tektronix 784 Oscilloscope, Fluke 45 DMM.

6/2000 to 9/2000 -- Orbital Sciences (Contract)
As Test Engineer
I was responsible for the testing of the Uplink and Downlink (S-Band and C-Band) communications sections of a commercial satellite. I developed the Test Program using National Instruments TestStand and LabVIEW.

2/2000 to 5/2000 -- Marconi (Contract)
As Telecommunications Test Engineer
I was responsible for the execution of several Test Plans to assure an Optical Switch operated per industry standards.

6/98 to 2/2000 -- Lucent Technologies (Contract)
As Optical Test Engineer
I design Production and Environmental Testing Sets for the Lucent Wavestar 400G Optical Amplifier, Optical Multiplexer Unit, Optical De-multiplexer Unit, Optical Monitor Unit and Wavelength Add/Drop. The Laser frequency used to test these products were up to OC-48 and OC-192. These designs employ "Rack and Stack" type of technology with "Off the Shelf" OEM Light Sources, Optical Analyzers, Optical Attenuators, Optical Splitters and Optical Switches. The Test Set resources employ GPIB controlled instruments via National Instruments LabVIEW 4.0 on the SUN operating system to stimulate test and record results.

12/97 to 5/98 -- ComsatRSI (Contract)
As Test Engineer
From the system requirements, I wrote Design Qualification Test Procedures and Production Test Procedures per DOD specifications. I designed Test Fixtures and Test Automation program to test Telecommunication assemblies.

1/97 to 9/97 -- Fujitsu Network Systems (Contract)
As Hardware Test Engineer
I executed Telecommunication Line Card System Test Plans for a Digital Loop Carrier Switch. This includes configuring the DLC switch and Test Equipment to test Line Cards to Bellcore standards for Idle Channel Noise, Frequency Response, Return Loss, Impulse Noise, Channel Crosstalk, Longitudinal Balance, Ring Trip Threshold, Ring Trip Delay, Lightning Surge Test, and AC Exposure Test. I evaluated and made recommendations to the Printed Circuit Board layout to permit the Line Card Product to advance through the Bellcore qualification process. I wrote the System Specification for an ORACLE Relational Database to house Unit Test Values. I subsequently prototyped the database with MS Access and integrated it into the Company Intranet.

8/96 to 1/97 -- Paradyne (Contract)
As System Test Engineer
I wrote and executed System Test Plans for a Telecommunication DCU/DSU product. I was responsible for the SNMP area of the product. I wrote the Test Scripts in the C programming language that interfaced to HP OpenView in conjunction with an "In-House Built" Automatic Tester to verify compliance of all MIBs and Enterprise specific MIBs with RFCs. I have extensive experience with telecomm test equipment that includes the Fireberd 6000, VBERT, and SAGE.

3/94 to 8/96 -- RELTEC Corp. (Contract)
As Application Engineer/Software Engineer
I developed new applications for a 68000-based Embedded Multitasking Software Project for Telecomm Testing. I used the Microsoft's Visual C++ (both versions 4.0 and 3.51) as the development tool. I managed the installation of Telecommunications Test System. This included IBM RISC6000

system administration, WAN and LAN configuration and management. I assisted Marketing with resolving technical issues concerning Telecomm Testing at the Local Operating Companies. This included specifying customer Network components, Operating Systems (both UNIX and PC based), and System Configuration. I developed a Visual Basic front end GUI for a proprietary Database Fileserver. I also modified several existing C programs that functioned on a proprietary LAN to interface with the Visual Basic front end. I wrote a Microsoft Access GUI front end to an Oracle Database Fileserver.
As System Engineer
I wrote System Specifications for a Telecommunication Line Tester. I specified the components for integrated POTS Testing, Special Service Testing, ISDN Testing and Fiber Optic Testing into a preemptive multitasking kernel along with the associated Graphical User Interfaces.
As Project Manager
I managed the project to port MSDOS C programs to the UNIX RISC6000 platform.

1/93 to 3/94 -- Intelect Inc. (Contract)
As Software System Test Engineer
I regression tested a T1/E1 Digital Switch. I wrote test procedures to system specifications and supervised the execution of the tests. Failures were isolated and analyzed to the code (C) level.
As Hardware Engineer
I designed Telephone Line cards. I designed the Subscriber Line Card analog interface compliant to FCC Part 68 and UL 464 standards. I designed the digital interface to Intel 386SL/360SL Microprocessor notebook chip set. I designed 4 Wire E&M Line Card. I designed 2 Wire CO/PABX (FXO/FXS) Loop Start/Ground Start Line Card. I used Valid's GEDIT (DOS version) CAD system for schematic capture and Bill of Material retrieval. I used Intusoft's ICAPS Spice simulation system for circuit simulation/characterization. I wrote the technical documentation for the Line Cards I developed. This included Unit Descriptions and Unit Test Plans.

9/92 to 11/92 -- Motorola Inc. (Contract)
As Hardware Engineer

1/92 to 6/92 -- Square D (Contract)
As Software Test Engineer

6/90 to 9/92 -- Alcatel Network Systems (Contract)
As Software Engineer and Hardware Engineer